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NOTICES:—All communications relating to editorial matter should be addressed to the Editor, who will be pleased to consider articles or contributions dealing with modern chemical developments or suggestions bearing upon the advancement of the chemical industry in this country. Communications relating to advertisements or general matters should be addressed to the Manager.

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The Chemical Resources of Palestine

FOR some time past there has been considerable speculation as to the commercial exploitation of the salt content of the Dead Sea, arising out of the Colonial Office's invitation to firms that might be interested to tender for the necessary concession. Dr. T. H. Norton, the technical editor of *Chemicals* (New York), who has been staying in London for some time, discusses this matter with some fullness in a recent issue of *The Literary Digest*, and adds some interesting details to our general knowledge of the subject. According to his account, almost immediately after General Allenby captured Jerusalem in 1917, a former officer of the Indian Army, alert to mineral possibilities, urged the Government to make a technical survey of the Dead Sea. While the Turkish army still occupied the northern part of Palestine, a geologist was appointed to make the investigation. A year after his tour of exploration a chemist developed a comprehensive project for the commercial treatment of the chemical contents of the Sea. Unaware of each other's work, both submitted applications for concession rights, but as the political status of the country was still uncertain, no action was taken. In 1922 the League of Nations confided the Mandate for Palestine

to the British Government. The power to grant mineral concessions was entrusted to the Colonial Office, acting with the Palestinian Administration. Careful preliminary studies were carried out, the results were tabulated, and a monograph was published by the Crown Agents for the Colonies in May, 1925. At the same time, the Agents invited tenders for the recovery of the salts in the waters of the Dead Sea. The date for presentation was December 31, 1926. Since then the applications, reduced in number, have been subjected to careful study, both in the Colonial Office in London and at Jerusalem, where the final decision is lodged. No one can blame the officials charged with the serious task of granting so important a franchise with being unduly slow. The responsibility of dealing with the problems of creating a vast modern industry in what is little more than a pastoral country must of necessity be entrusted to men competent to handle them. Fortunately for Palestine, it is claimed, this type of chemist is well represented in the small group of applicants for the concession. The dominant idea of the studies and experimentation of the past nine years has been the ambition to achieve a notable success in unlocking a marvellous storehouse of mineral wealth. It is, however, coupled with a resolute determination that Palestine shall be the chief beneficiary. That, shortly, is Dr. Norton's story.

Formal proposals, he goes on to state, include the transference of the bulk of the surplus profits to the Government of Palestine, or the obligatory reinvestment of a portion in Palestinian industrial, financial, commercial, transportation, and similar organisations, thus retaining, in the land itself, the chief amount of the tribute paid by the rest of the world for the country's mineral treasure; the distribution of potash salts, as a fertiliser, at cost prices, to the farmers of Palestine and Transjordan; the return of the entire plant for the recovery of the salts of the Dead Sea, after a period of years, to the Government of Palestine; the establishment of vocational schools to train natives for subordinate posts, and eventually higher administrative and technical positions; the presence in the directorate of the proposed Corporation of one or more competent natives of Palestine, representing its Government; a highly perfected welfare organisation, dealing with the interests of workmen and their families; and similar features, aiming at the closest co-operation with the mandatory administration, for the social and industrial development of Palestine. Very complete preparations, we are assured, have been made for a prompt entrance upon active operations in case the concession is granted. Thus the staff of one applicant includes four prominent chemists of international reputation.

About the value and volume of the potash salts in the Dead Sea there is not much doubt. The principal problems are obviously those for competent chemical

engineers, and one of the difficulties may be the construction of transport facilities. The real point is whether the treated products can be put on the market at a lower cost than present supplies. An estimate, based on recent quotations, gives the following figures of potential quantities and values :—

	Tons.	Dollars.
Potash—K ₂ O (as KCl)	1,300,000,000	70,000,000,000
Bromine—Br ₂ (as MgBr ₂)	853,000,000	260,000,000,000
Salt—NaCl	11,900,000,000	27,500,000,000
Gypsum—CaSO ₄ ·2H ₂ O	81,000,000	120,000,000
Calcium Chloride—CaCl ₂	6,000,000,000	85,000,000,000
Magnesium Chloride—MgCl ₂	22,000,000,000	825,000,000,000

1,267,620,000,000

A statement was recently made that a concession had been granted, but so far no confirmation of this has been received. It is known, however, that negotiations have been going on, and in view of the importance of the scheme the result will be awaited with interest.

The Cut in Sulphate Prices

IN our nitrogen products market report to-day will be found an important announcement by Nitram, Ltd., of what is described as a huge cut in sulphate of ammonia prices. The detailed figures show that the price of £9 18s. per ton for August represents a drop of £2 8s. per ton or nearly 20 per cent. on last season's price, and there is no concealment of the fact that the new scale is a direct consequence of the increased output from synthetic plants. The reduction of price in the home market is to be accompanied by increased propaganda and research on various crops, the British producers apparently being of the opinion that there is ample scope for a vastly increased consumption in the home market. The price for September will be advanced by 2s. to £10 per ton, and a small progressive monthly advance will bring the price by February of 1928 up to £10 13s. per ton, at which figure it is intended that it should remain until the following May. This announcement, although a little startling at the moment, is only what has been expected by all who have contemplated the effect on the market of the enormous increase in the output of synthetic products.

British Association Meetings

THE visit of the British Association to Leeds for the annual meetings on August 31 to September 7 will be the third that the Association has paid to the city, the previous visits being in 1858 and 1890. Between the meeting of 1858 and that of this year there are two interesting points of contact. When the Association met in 1858, under the presidency of Sir Richard Owen, Wallace and Darwin had only a few weeks before presented to the Linnean Society their theory of the origin of species, and the president's address, in which reference was made to this subject, helped to set in motion a vigorous controversy on evolution. This year Sir Arthur Keith, in his presidential address, will deal with "Darwin's theory of man's descent as it stands to-day," and his historical and critical review of the movement of ideas in the interval should be of general interest. In view, again, of the recent establishment of direct speech by wireless across the Atlantic, it is interesting to recall that at the 1858 meeting the President announced the laying of a telegraphic

cable between England and the United States, and the first messages between the two nations had, in fact, been exchanged only a few days before.

Apart from the general interest of the Leeds meeting, there is a good programme of discussions on chemical and allied subjects. Dr. Sidgwick, the president of the Chemistry Section, has chosen "Co-ordination compounds" as the theme of his presidential address, and in the discussion to follow Professor G. T. Morgan, Professor C. K. Ingold, Dr. S. Sugden, and Dr. F. G. Mann are announced to take part. "The fading of dyestuffs" and "Moisture relations of colloidal fibres" will be the subjects of papers to be read respectively by Dr. S. G. Barker and Dr. J. J. Hedges. In a discussion on "The nature and formation of colloidal particles," the principal speakers will be Sir William Bragg, Dr. H. Freundlich, Professor R. Whytlaw Gray, Dr. F. L. Usher, Mr. D. N. Desai, and Mr. J. Ewles. No scientific conference of to-day is complete without some reference to coal problems; Dr. Lander and Professor Cobb are to speak on "Our available coal supplies and their utilisation," and Professor R. V. Wheeler on "The chemistry of coal." A discussion on "The chemistry of hormones" will bring together some of the leading English authorities, including Professor G. Barger, Professor H. S. Raper, Mr. F. H. Carr, Professor J. C. Drummond, Professor E. C. Dodds, and Professor J. Mellanby. Among other features of chemical interest will be papers or addresses by Professor N. M. Comber on "The teaching and research work on soil chemistry," by Professor H. M. Dawson on "New developments in the study of acid catalysis," by Professor J. Read on "Researches on menthones, menthols, and menthylamines," by Dr. L. L. Lloyd on "The rancidification and oxidation of olive oil," by Professor E. N. da C. Andrade on "A molecular theory of liquid viscosity," and by Dr. A. Perl on "The manufacture of viscose."

In the visits to works, etc., the chemical delegates will find some attractive features. In addition to the inspection of the laboratories of the British Research Association for the woollen and worsted industries, parties will be taken to the works of the Wood Brothers Glass Co., Barnsley; the Yorkshire Coking and Chemical Co., and Hickson and Partners, Castleford; L. B. Holliday and Co. at Huddersfield (for demonstration of general manufacture of dyestuffs); and Joseph Watson and Sons, Ltd., Leeds (soap manufacture). The British Association head office at Burlington House, London, closes for the issue of tickets on August 29. The local secretaries' office is at the Education Department, Calverley Street, Leeds.

Chemical Tariff Problems

THE remarks of Sir John Brunner at the recent meeting of the Association of British Chemical Manufacturers as to the general reaction that is taking place throughout Europe against the over-development of tariff systems, are fully borne out by the Prime Minister of Belgium (M. Theunis), in reviewing the results of the Geneva Economic Conference. His main conclusion is that the time has come to limit the growth of customs tariffs, and to restrict the movement to three main lines, namely, individual action by States

with regard to their own tariffs; bilateral action through the conclusion of suitable commercial treaties; and collective action by means of an inquiry with a view to encouraging the expansion of international trade on an equitable basis by removing or lowering the existing barriers. The evidence before the conference shows that the recovery from the effects of the War has been delayed, and that the foreign commerce of all nations is in greater or less degree hampered by existing obstacles. Since the War some of the more injurious forms of obstruction have been removed and to this fact is attributed such recovery of world trade as has been achieved. On the other hand, tariffs are for the most part higher than before the War, and their harmful effects have, in some cases, increased through their constant changes, which have created an element of uncertainty and made long contracts almost impossible. It is recognised that the removal or substantial reduction of existing customs barriers cannot be brought about suddenly without causing dislocation, but it is felt that the various Governments should prepare for removing or diminishing by successive stages such barriers as hamper trade, starting with those special duties imposed to counteract the effect of disturbances that have now ceased.

The general effect of this review of the operation of tariffs on trade, is that undoubtedly harmful effects result from the high and constantly changing tariffs adopted in several countries. Substantial improvement in economic conditions, which all the European nations desire, can only be obtained, it is now recognised, by increased facilities for international commerce. It is recognised, further, that tariffs, although within the jurisdiction of the separate states, are no longer a matter of purely domestic interest, but have an important bearing upon the general trade of the world. Many of the causes, again, which have led to the recent increase of tariffs and other trade barriers since the War, have largely disappeared or are diminishing. European opinion, therefore, is gradually coming round to the view that restrictions on the international flow of trade have a bad effect and that improvement can only come by all nations cultivating a freer exchange of goods. In other words, the policy for the future would appear to be to encourage the fullest possible extension of international trade on an equitable basis, while paying due regard to the interests of producers and workers in obtaining fair remuneration and of consumers in increasing their purchasing power.

New York Chemical Exposition

WHEN the Eleventh Exposition of Chemical Industries opens in New York City on September 26, it is expected to disclose one of the greatest collections of chemical exhibits ever assembled in America. For the first time in the history of the Exposition foreign methods and practices will be shown, giving the home manufacturers and users of the products the opportunity to compare domestic and foreign products, methods, and practices. The Exposition, in particular, will demonstrate the immense importance of the work of the chemical engineer in recent years. Nearly every great industry has felt his influence in some form or another. One of the latest concerns to realise the value of research has been the United States Steel Corporation. Recently

Judge Gary announced the appointment of Mr. John Johnston, who for some time was the chairman of the Department of Chemistry at Yale, as director of a newly established department of research and technology. Like so many large corporations in the past the United States Steel Corporation has depended on its own resources, and special attention is now to be given to the development of corrosion-resistant alloys. This is expected to be a strong feature of the Exposition, the exhibitors including the Central Alloy Steel Co., the Vanadium Co. of America, and the International Nickel Co. The Exposition management is receiving communications from many other manufacturers of metals and alloys and it expects to be able to show about twenty of the various new non-corrosive iron and steel alloys. Farsighted men of affairs, it is pointed out, perceive that something more than financial resources is necessary for commercial progress. Modern business demands two kinds of capital—money, and technical and scientific knowledge. A well organised and well directed staff of research men can achieve results not otherwise attainable.

A London Fuel Conference

PRELIMINARY particulars are published of an important conference on fuels, which is to be held at the Imperial Institute, London, on September 24 to October 6, 1928. The First Plenary World Power Conference was held in the summer of 1924, and was followed by a sectional meeting on water power development and inland navigation at Basle in September, 1926. The sectional meeting on fuel problems now fixed for September, 1928, in London, is being arranged by the British National Committee under authority from the International Executive Council.

Lord Balfour has accepted the honorary presidency and Sir Alfred Mond the presidency of the London Conference, and the chief participating industries, namely, coal, oil, gas, and chemicals are strongly represented through their nominees to the Fuel Conference Committee and the Technical Committee. Representatives of additional interested organisations will be added to the Fuel Conference Committee later.

The member countries of the World Power Conference are arranging to participate in the Fuel Conference to the fullest possible extent by the presentation of papers under the various headings of the technical programme and by the attendance of fully representative delegations. In order to shorten the proceedings and to focus the attention of the Conference on the most important aspects of the subjects to be covered, apart from exceptional cases only authoritative reports from representative bodies in each participating country will be accepted. The London headquarters of the Conference are at 36, Kingsway, London, W.C.2.

The Calendar

Aug. 31-	British Association for the Advancement of Science: Annual Meeting.	Leeds.
Sep. 7		
Sep. 6-9	Institute of Metals: Autumn Meeting.	Derby.
Oct. 23- 26	Marcelin Berthelot Centenary Celebrations.	Paris.

Fluorine and Cancer

To the Editor of THE CHEMICAL AGE.

SIR,—May a simple experimental chemist make a few remarks and perhaps a suggestion? In some directions one hears so much about vitamins and hormones and their activities and influence, and in others about the effects of different ether waves and so on in connection with cancer, that the common chemist, who has been brought up on an "inorganic" basis, begins to wonder whether his favourite side of the subject has been given up as out of date. One particular element (so-called), fluorine, has intruded itself on his mind for some years past, complaining of neglect and notifying several points about itself—first, if it be not a brother it is closely connected with chlorine, bromine, and iodine. It can do all their functions, and, in some cases, much better. Even its compounds of slight solubility in water have an antiseptic and not negligible plant life inhibiting power that like compounds of the other halogens do not exhibit. Fluorine minerals, although widely distributed in small amounts, occur in somewhat restricted localities in mines, like deposits or veins. Speaking generally, most heavy clay soils and chalks contain fluorine mainly as calcium fluoide.

Now, may it not be that the strongly-marked anti-life nature of fluorine, itself, has passed over, in modified form to its compounds, even the slightly soluble naturally occurring ones, in such degree that the quantity taken up normally by plants, especially cereals, may have some controlling action on the retention or formation of certain constituents when the plant is grown under conditions permitting of complete nourishment and maturation? Again, animals consuming such mature foodstuffs should also be affected by the quantity of the contained fluorine compounds or complexes of an organic nature, modified by their presence. (Animals do take up fluorine and concentrate it in teeth and bones.) Surely cereals sown in autumn and not reaped until the next autumn have a better chance of taking up their fill of fluorine, and also of becoming really mature plants than when sown in spring and reaped the same summer. May it not be that this ingestion of immature cereal foodstuffs, lacking in the normal amount of fluorine the race has been fed upon in past generations, has some responsibility for poor teeth, and, worse than that, of the increase of cancer?

In connection with cancer, attention might be drawn to certain fluorine compounds of the little known bases, hydrazine, and some of its derivatives and the complex bases of the type of cobaltamines. They are poisons with definite lines of activity which might be useful in cancer treatment. They are convenient salts for injection, being soluble in water, and glycerine.—Yours, etc.,

W. R. HODGKINSON.

89, Shooters Hill Road,
Blackheath, S.E.3.
August 3.

Lena Goldfields' Ltd. Annual Meeting

Satisfactory Relations with Soviet Government

THE adjourned ordinary general meeting of Lena Goldfields, Ltd., was held in London on Friday, July 29. Mr. Herbert Guedalla (the chairman) said that at the previous meeting he made it clear that the company was no longer a holding company, and that the business had taken the form of one large operating concern, controlling mines of different character, smelting plants, iron and steel factories, a large river fleet, a private railway, and various warehouses and stores. In their enterprise they had gone back into Russia purely as business people, and had been treated as such by the Soviet Government, and it was not for him to criticise the recent action which had disturbed the relations between the two Governments. As to the company's relations with the Soviet Government, he was glad to be able to say that harmonious relations had not been disturbed. In fact, after the breach of relations with the British Government they received an official intimation from the Soviet Government that their concession would in all ways be respected. Although welcome, this communication came as no surprise, because, as far as he was aware, the Soviet Government had always met its own monetary and commercial obligations.

British Association of Chemists

The "B" Qualification

THE "B" qualification of the British Association of Chemists has been the subject of so much misrepresentation that a few words of explanation in regard to it need no apology. The existence of this qualification has so important a bearing on the subject of registration, that it is necessary to explode the fallacy that the "B" qualification is a convenient means of admitting all and sundry into membership.

All who are interested in the organisation of the profession of chemistry are agreed that if that organisation is to rest upon a practical basis, membership of the profession cannot at first be restricted to the academically qualified. It is impossible to ignore the existence of many men, of high professional competency, who have risen to eminence after entering the profession by other means than that of the academic door. Before practical steps can be taken to restrict future entry into the profession, recognition must be accorded to such men, and an accredited place found for them in the professional ranks.

While this is agreed, difficulties present themselves where an attempt is made to set up a standard outside the sphere of academic qualifications. It is greatly to the credit of the Association that since its formation this problem has been faced, and to a large extent solved. Many difficulties remain, as those most closely engaged in the work recognise only too clearly, but, on the whole, the work of the Nominations Committee has been conspicuously successful. Formal regulations in regard to the "B" qualification are, of course, laid down, but each case is examined on its merits. The committee takes the view that in addition to evidence of general and scientific education and a period of not less than five years' *bona fide* experience as a chemist, the only satisfactory evidence of professional competency is evidence that the applicant has been able to hold a position of definite responsibility, as a chemist, for at least two years. Admission to the Association under the "B" qualification is then carefully guarded, and the work of the Nominations Committee, an onerous task, and one of great responsibility, justifies the view that full membership of the Association for all members alike is, in itself, a privilege worth possessing.

Until the whole profession seriously addresses itself to the task of regulating means of entry into the profession, the procedure in connection with the "B" qualification must remain. The amicable and comfortable fallacy that very few now enter the profession except through the orthodox channels is a very great danger. Doubtless, the numbers have decreased, but it is still quite common to see analysts advertising for pupils, and large numbers who practise chemistry still receive almost an exclusively practical training. Some of these become competent practitioners, some do not, but it seems impossible—in the absence of legal restrictions—to deny them the title of chemist.

With those who insist that the "B" qualification is worthless as admitting to membership without proper safeguards, the Association cannot be expected to sympathise. We cannot hope at once to be altogether delivered from that stiff-necked attitude which will not or cannot even temporarily, and in the interests of expediency, throw off the bond of a formula. The misunderstanding in some cases extends to the view that almost any tester has only to apply in order to be admitted under the "B" qualification. No greater travesty of the work of the Nominations Committee could well be imagined.

The bearing of this upon the question of registration is obvious. The suggestion for the creation of a special grade within the Institute of Chemistry is merely an evasion of the issue. Essentially, the problem of qualification has been solved and the foundations of the register already exist. A closer co-operation between the constituent bodies of the profession will make it possible, in some details, to improve the procedure of the Nominations Committee. None the less, it is no exaggeration to assert that the work of the committee on the "B" qualification has already indicated the manner in which one of the fundamental problems of registration will be successfully surmounted.

H. T. F. R.

Extraordinary Meeting of Inveresk Paper Co.

AT an extraordinary general meeting of the Inveresk Paper Co., Ltd., held at Glasgow on Friday, July 29, resolutions were passed increasing the capital of the company to £2,200,000 by the creation of £1,000,000 additional shares of £1 each. Of these additional 1,000,000 shares 600,000 are to be 6½ per cent. "B" cumulative preference shares, and 400,000 are to be ordinary shares. All the 600,000 cumulative and 120,000 of the ordinary shares are earmarked for issue to the holders of the 8 per cent. cumulative participating preference shares of the International Pulp and Chemical Co., Ltd., in accordance with the offer recently made to them for the purchase of their interests. Mr. William Harrison, LL.B., the chairman of the Inveresk Paper Co., said that the shareholders had received a print of the offer which the company made on June 24, to the holders of the 8 per cent. participating preference shares in the International Pulp and Chemical Co., Ltd. Up to the present time, of the 600,000 8 per cent. participating preference shares in the International Pulp and Chemical Co., Ltd., holders of no less than 590,000 shares in approximate figures had assented. The offer which they made, and which had now been so completely accepted, was in the interests of all concerned. It was a difficult matter to explain in a public meeting all the underlying influences at work, but they might take it from the directors that it was necessary that they should be placed in a position to deal with the Koholyt properties at any time in a manner which seemed advisable to them in the shareholders' interests. He had been asked by several shareholders what would be the position if even a small minority of the 8 per cent. participating preference shareholders of the International Pulp and Chemical Co. did not ultimately accept the offer they had made. The reply to that was that as they would hold virtually the whole of the capital of the company, they had decided that no good purpose would be served by continuing to keep the International Pulp and Chemical Co. in existence, and they would accordingly at an early date take steps to put that company into liquidation.

Salters' Institute of Industrial Chemistry

THE following awards for the year 1927-28 have been made by the Salters' Institute of Industrial Chemistry and approved by the Court of the Company:—

Fellowships have been renewed to Mr. R. M. Deanesly, University of Oxford, at the Ramsay Department of Chemical Engineering, University College, London (Fellow, 1926-27); and Mr. H. B. Spalding, University of Oxford, at the Massachusetts Institute of Technology (Fellow, 1926-27).

Fellowships have also been awarded to Mr. C. G. Akhurst, Imperial College of Science and Technology, London; Mr. A. Caress, University of Cambridge; Mr. I. G. Nixon, University of Cambridge; Mr. D. R. Pryde, University College, Bangor; Mr. J. Muir Smith, Armstrong College, Newcastle; and Mr. F. Witt, Imperial College of Science and Technology, London.

The Salters' Institute has also awarded fifty grants-in-aid to young men employed in chemical works to facilitate their further studies.

Rumours of Great American Merger

A SHARP rise in the stocks of the United States Steel Corporation, the Dupont Nemours Chemical Co., and General Motors in Wall Street last week was stated to be due to rumours that the three companies intended to merge into the greatest combine in the history of America. The rumours were sufficiently well founded, apparently, to lead the Federal Trade Commission to announce that it will conduct an investigation to see whether such an amalgamation would violate the anti-trust and anti-monopoly laws. The companies involved are three of the largest industrial concerns in the United States, and possess tremendous capital resources. The J. P. Morgan Company is banker for all three, and it is suspected that such a combination of motor, steel, and chemical producers could and would give Mr. Henry Ford a keen race for supremacy in the field of cheap motor car production.

A Former Chemical Manufacturer's Failure

A RECEIVING order in the bankruptcy of Isaac Lialter Levin, 4, Argyll Road, Westcliff-on-Sea, Essex, commercial traveller, late chemical manufacturer, was made recently on the debtor's own petition. The statement of affairs shows liabilities of £36,718 19s. 2d., against assets of £17. Failure is attributed to liability under guarantees of unpaid calls on shares in a chemical manufacturing company and law costs in connection with a former bankruptcy. A previous receiving order was made against him in the Ashton-under-Lyne County Court on August 2, 1900. He has not obtained his discharge in those proceedings. In October, 1922, another receiving order was made against him in the Manchester County Court, and the proceedings were transferred to the Warrington County Court. The trustee in these proceedings states that there is no possibility of a dividend being paid to creditors, and that there are unsatisfied claims amounting to £18,271. From August, 1922, to December, 1924, the debtor was employed at Manchester as works manager to a limited chemical manufacturing company. In order to acquire a controlling interest in the company, his wife and another were allotted, on his behalf and under his guarantee, 10,900 £1 shares upon which one shilling per share only had been called up. In 1924 he became liable in respect of a guarantee of an overdraft of the same company, which later ceased to trade, and the liabilities became operative. A judgment summons was issued against him on May 7 in respect of costs owing to the trustee in the previous proceedings, and he filed his petition.

American Celluloid Co.'s Agreement with Celanese of America

IT is announced that the processes of the Celanese Corporation of America are to be made available for large scale manufacture of non-inflammable celluloid for films and other purposes. At a meeting on July 28 of the board of the American Celluloid Co., a plan of reorganisation was approved for recommendation to the shareholders, by which Celanese of America obtains control of the Celluloid Co. The reorganised Celluloid Co., apart from its own numerous patents and processes for the manufacture of films and celluloid, will own a licence to manufacture all its products in a non-inflammable form from cellulose acetate, under the patents and processes of the Celanese of America. Under the reorganisation the Celluloid Co. will erect, on property owned by Celanese of America, at Cumberland, Maryland, a plant with an initial capacity of five tons a day for producing the cellulose acetate to be used in the manufacture of the above-mentioned articles. The plant will be operated by Celanese, the cost of production of the cellulose acetate for both companies being thereby reduced. New capital will be raised by the Celluloid Co. to the amount of about \$3,500,000, of which Celanese of America will supply \$1,000,000 and \$2,400,000 will be underwritten by prominent New York bankers. The new board of directors, which includes Dr. Camille Dreyfus and Dr. Henri Dreyfus, is composed of seven representatives of the Celanese Co. and five of the Celluloid Co.

The Individualist Bookshop

THE growth of the Individualist Movement, started less than a year ago, has been so rapid that larger premises have already become essential. The bookshop will move on August 15 from 40, Marsham Street, Westminster, to 84, Charing Cross Road, London. The Marsham Street shop, at the back of Westminster Abbey, was taken in an experimental way for a year only, and that short spell has been sufficient to warrant the directors in accepting the responsibilities of a long lease of the handsome premises in Charing Cross Road. In addition to the shop, which is being handsomely fitted on modern lines, there are four upper floors with ample office accommodation.

The monthly luncheon, the only public function organised last winter, will be repeated in the season 1927-8 with even greater success. The speakers already announced include Earl Balfour, Dean Inge, Mr. Walter Runciman, Mr. F. W. Hirst, Mr. R. D. Holt, Sir Gerald du Maurier, and the Vice-Chancellor of the University of Leeds. The resources of the Hotel Cecil will be taxed to the utmost to accommodate those who desire to attend these functions, and applications for tickets cannot be made too early.

The World's Manganese Supply

THE extent to which the United States is dependent on foreign sources for the supplies of manganese required for its industries is illustrated in a memorandum on "The Manganese Situation from a Domestic Standpoint," by Mr. J. W. Furness, contained in a circular issued by the United States Bureau of Mines. It illustrates the activity with which the United States was driven to find manganese within its own territory, raising the production for the time from a fraction of 1 per cent. of the needs of its own industries to 32 per cent. during 1917 and 1918, and even then having to modify peace-time specifications and to mix the home ores with high grade imported ores in order to make them usable. The particulars given by Mr. Furness confirm the view that no manganese famine is to be expected in the immediate future. Before the war, when the great sources of supply were Russia, India, and Brazil, any two of these sources are said to have been able to meet the world's demand. Though much smaller than before the war, Russian supplies are now increasing, the Gold Coast is making a substantial contribution, and a considerable further addition may be expected from South West Africa. For the next few years, therefore, the course of manganese supplies is not likely to show any natural dearth, but, as Mr. Furness suggests, may vary with modifications of commercial barriers and political developments. It is satisfactory to remember that three of the great sources of supply are within the British Empire, without counting those, such as the Australian deposits, of which as yet only a rudimentary development has taken place.

Diatomaceous Earth in British Columbia

THE large deposit of diatomaceous earth in the Fraser Valley, near Quesnel, British Columbia, is to be actively developed if the plans of the Canadian Diatomite Co. materialise. Sample orders amounting to a carload will be shipped in a short time, and it is hoped that these will be followed by large and continuous shipments. A camp has been established, and samples will be taken from different portions of four square miles of leased Government land near the Big Bend. The deposit is said to be forty feet in thickness, and has long been recognised as one of the most important occurrences of this mineral in Canada. Diatomaceous earth, also known as diatomite, tripolite, fossil flour, to mention only a few of its various names, is composed of the siliceous remains of exceedingly minute aquatic organisms. It is mined in several parts of the United States and in a few other countries. In Canada, diatomite occurs in a number of provinces, notably Nova Scotia, New Brunswick, and British Columbia, and it has been mined to some extent in Nova Scotia. The uses of diatomite are many and varied. Its great porosity makes it a good insulating material for heat, cold, and sound, and since it is highly refractory, it can be used for insulating linings for furnaces, ovens, safes, etc., as well as in the walls of cold storage receptacles, and structurally in the form of light blocks, etc.

This Week's Fleet Street Tour

ON Wednesday, readers of THE CHEMICAL AGE and associated journals were conducted by Mr. Allen S. Walker in a tour, which included the Old Bailey and the Central Criminal Court. Visits were made to the upper hall (built by Mr. E. W. Mountford); the statue of Elizabeth and the tablet to John Howard, both prison reformers; the judges' dining room; the Court rooms; and the Lord Mayor's room. Subsequently the party went on to Christ Church, Greyfriars, and then returned to Bouverie House for tea. Next week's tour will take place on Tuesday, August 9, and will include St. John's Priory Church; St. John's Gate, headquarters of the Crusading Order of the Knights of St. John of Jerusalem. Other tours will take place on Wednesday, September 7 (St. Paul's Cathedral); Tuesday, September 13 (remains of London Wall, Stationers' Hall, etc.); and Wednesday, September 21 (St. Andrews-by-the-Wardrobe and the site of Shakespeare's Blackfriars Theatre). Readers of THE CHEMICAL AGE who desire to attend should make application for tickets to the Editor, Bouverie House, 154, Fleet Street, London, E.C.4. The tours commence from Bouverie House at 2.45 p.m.

Chemical Matters in Parliament

Cocaine and Cocaine Hydrochloride

Mr. Fenby asked the President of the Board of Trade (House of Commons, July 29) if he was aware that the exemption orders, applied for last year under Section 10 (5) of the Finance Act, 1926, in respect of cocaine and cocaine hydrochloride, being products liable to duty under The Safeguarding of Industries Act, 1921, had not yet been issued; that his department was refusing to issue these exemption orders although the products in question were still not made in the Empire; and that, in consequence, hospitals and the general medical service, who were the chief consumers of the products, which had to be imported, were compelled to pay considerably more than would otherwise be the case; would he take steps to issue the exemption orders, in question, forthwith; and, if not, what further period of time was it proposed to allow in respect of the products in question?

In his reply, Sir P. Cunliffe-Lister stated that before he could make any recommendation to the Treasury under Section 10 (5) of The Finance Act, 1926, to exempt any article from duty, he must be satisfied that there was no reasonable probability that the article would be made in the Empire in substantial quantities within a reasonable period. Preparations for the manufacture of these materials in this country were well advanced, and he did not propose to make any recommendations to the Treasury on the subject at present.

South Staffordshire Mond Gas Bill

Committee's Report on an Important Clause

WHEN the Bill, promoted by the South Staffordshire Mond Gas Co., left the Unopposed Bills Committee of the House of Commons on July 15, the position, as stated in THE CHEMICAL AGE last week, was that the Committee did not feel disposed to grant the Company Clause 17, which proposed to give additional powers for the manufacture of gases and other chemical compounds. The suggestion was made that the Committee should either report the Bill for third reading without Clause 17, or make a Special Report to the House on the Bill, which would hold up the Bill until the autumn Session. The Company, however, was so anxious to secure the Bill, apart from Clause 17, that it decided to withdraw Clause 17, and the Bill was duly reported for third reading in that form, and received Royal Assent on July 29.

The unopposed Bills Committee made a Special Report upon the Bill, in which it pointed out that Clause 17 proposed to confer important powers to manufacture gases which have not hitherto been granted by Private Bill. After a reference to the evidence of Mr. Ronca, the Director of Gas Administration at the Board of Trade, the Report went on to state that the question raised was an important one, but the advisability of granting the powers of Clause 17 by statute, and the effect which the granting of them would have upon non-statutory chemical manufacturers and upon the chemical industry, had not been inquired into by the Department, and the Committee upon Unopposed Bills had no powers which would enable such an inquiry to be effectively conducted. The Committee, therefore, reported that it had decided not to take the responsibility of allowing Clause 17 to proceed, but that they were unanimously of opinion that the matter was of such importance that an inquiry should be instituted before a Committee properly equipped for the purpose.

Vacant Appointments

ANGAS Professor of Chemistry in the University of Adelaide, South Australia. £1,100. The Agent-General for South Australia, Australia House, 112, Strand, London. October 1.

Professor of Chemistry in the University of Melbourne, Australia. £1,200. The Agent-General for Victoria, Victoria House, Melbourne Place, Strand, London. October 1.

Lectureship in Fuel Technology, at Imperial College. Commencing £360 per annum. Sensible Heat Distillation, Ltd. (Coal Research) Fellowship. £175 to £200. The Registrar, Imperial College of Science and Technology, London, S.W.7. August 31.

Principal of the College of Technology, Leicester. £800 to £1,000 per annum. Application forms, from the Registrar, to be sent to F. P. Armitage, Director of Education, Leicester Education Committee. August 20.

From Week to Week

SIR ALFRED MOND is one of the contributors to the Lord Oxford Fund.

THE UNIVERSITY OF LONDON degree of D.Sc. (Chemistry) has been conferred upon P. B. Ganguli, S. J. Lewis (University College), and E. S. Hedges (Bedford College).

SIR JOSIAH STAMP, member of the board of I.C.I. and president of the executive of the London, Midland, and Scottish Railway Co., has been elected a director of the latter company and designated to succeed Sir Guy Granet as chairman.

RECENT WILLS INCLUDE: Mr. Thomas Lye, of T. Lye and Sons, plait dyers, Luton, £80,069 (net personalty £74,128).—Mr. Charles Louis Petri, Cardiff, founder of the International Paint and Composition Co., Ltd. (formerly Holzapfels), £74,070.

AN APPLICATION was made at West Bromwich on July 27 for a committal order against Harold Swithenbank, an analytical chemist, of Forest Hill, London, for non-compliance with an order to pay £75 a year in respect of his bankruptcy. The debtor agreed to pay £2 a month and the application was adjourned as long as payments were continued.

DR. R. H. PICKARD, F.R.S., hitherto principal of Battersea Polytechnic, will take up in September his new duties as Director of the British Cotton Research Association. The governing body of the Polytechnic have appointed as the new principal Mr. G. F. O'Riordan, B.Sc., M.I.Mech.E., etc., who has been principal of the Leicester College of Technology since 1925.

THE FOLLOWING MONOGRAPHS (being theses submitted in partial fulfilment of the requirements for the degree of doctor of philosophy in chemistry in the graduate school of the University of Illinois) have been received: "A Study of Optically Active Dyes, Mechanism of Dyeing and Absorption Spectra," by W. R. Brode; and "The Metabolism of Histidine and Related Compounds," by G. J. Cox.

SOLIDIFIED CARBON DIOXIDE is claiming much attention in the refrigerating business in New York. Makers claim that it can be made for 2½d. a pound, and point out that a refrigerating truck usually requiring 17,000 pounds of ice can be iced with 1,200 pounds of solid carbon dioxide, and that no re-icing is needed for transcontinental shipments, thus ensuring a saving in freight costs. Manufacturers of ice-making plants are watching the new process with interest, in view of its probable effect on their own trade.

THE DRAYTON REGULATOR AND INSTRUMENT CO., LTD., of West Drayton, Middlesex, have put on the market a new temperature regulator which controls the temperature of liquids by regulating valves adapted to vary the supply of heating or cooking mediums. The regulator is a robust instrument which ensures dependable temperature control with no upkeep cost, and is suited to ordinary factory conditions. When installed under conditions approved by the manufacturers, the regulator can be depended upon to ensure control within plus or minus 2 deg. Fahrenheit.

THE HOME OFFICE ANNOUNCED ON SATURDAY that it had allowed the appeal of Russian Oil Products, Ltd., against the refusal of the Barnstaple Town Council to grant them a petroleum storage licence in that town. The appeal, made under Section 10 of the Petroleum Act, 1871, was heard at Barnstaple a fortnight ago. The licence was refused mainly on the grounds that the tanks proposed to be used were to be welded instead of riveted, and, therefore, unsuitable. For the oil company, it contended that welded tanks were superior to the others, and that licences for the erection of such tanks had been granted in other towns in the West of England.

THE HAGUE PERMANENT COURT last week dismissed the Polish plea in connection with claims for reparations due to the German Government for the taking over of a nitrate factory at Chorzow, Polish Upper Silesia, by the Polish Government. In a previous judgment the Court had recognised that the attitude of the Polish Government in regard to German undertakings to which the factory belonged, was in conformity with the provisions of a convention, but irreconcilable differences of opinion became apparent in regard to the methods of payment, and the Polish Government filed the new plea which was dismissed. The Court retains the suit instituted by the German Government for consideration upon merits.

DR. H. H. GREEN has been appointed director of the new Dairy Research Institute in Scotland. He is a graduate of the University of Glasgow. In 1917 he was awarded the degree of Doctor of Science in respect of his original researches on nitrogen metabolism of soil, sheep dips, polysulphide solutions, arsenical testers, and other progress in agricultural chemistry. Dr. Green entered in 1914 the service of the Division of Veterinary Education and Research of the Union of South Africa, Pretoria, under the direction of Sir Arnold Theiler. In 1919 he was promoted to be Professor of Biochemistry and Bacteriology in the Veterinary Faculty of Pretoria, and sub-director of the Research Institute at Ouderstepoort. He organised the biochemical department of the Institute. Dr. Green hopes to return to this country in September and will represent the Scottish Research Institute at the British Empire Conference on Agricultural Research to be held in October. He is about 41 years of age.

SIR HARRY MACGOWAN, president of I.C.I., will be one of the members of a committee of inquiry into the deficit on the Inland Telegraph Service.

DR. J. GORDON PARKER, who was one of the International Association of Leather Chemists, has resigned from his post as principal of the Leathersellers' Technical College.

MR. WALTER TEAGLE, president of the Standard Oil Co., is reported to have arrived at Mannheim to negotiate with the I.G. concerning the trust's synthetic motor fuel.

THE ADJOURNED SPECIAL GENERAL MEETING of the British Sugar Beet Society was held on July 27, when it was decided to continue the society on the existing lines, a reasonable measure of financial support having been promised.

THREE PRIZES—of the value of 25,000, 15,000 and 10,000 RM. respectively—are being offered in Germany for a binding material for coal briquettes. Details may be obtained from the Pecheinkaufsgemeinschaft Briquettes herstellender Zechen, Essen, Frau-Berta-Krupp-Strasse 4, Postfach 181, Germany.

IN AN ATTEMPT TO CUT DOWN Italy's heavy petrol imports Signor Mussolini has just promoted a national consortium known as the "Azienda Generale Italiana Petroli," to face the problems of exploring and developing national oilfields. Oil exists in several regions of Southern Italy. Last year Italy imported more than £1,600,000 of petrol.

THE AGREEMENT BETWEEN THE NEWFOUNDLAND GOVERNMENT and the International Paper Company of New York, covering the Cornerbrook and Gander Valley paper enterprises, which has been in negotiation for the past month, was signed on Wednesday, and the incorporation of the International Paper Co. of Newfoundland, Ltd., with a capital of £5,000,000, has been announced.

THE COUNCIL OF LEEDS UNIVERSITY has approved proposals for effective co-operation between the University and the British Research Association for the Woollen and Worsted Industries. The time spent and research work done at the headquarters of the Association by graduates of British universities will be regarded as qualifying for the higher degrees of Leeds University.

THE EASTMAN KODAK CO., of Rochester, New York, has issued volume 10 (1926) of the "Abridged Scientific Publications from the Kodak Research Laboratories." The publications, which occupy 247 pages, include three papers on organic chemistry, and three on physical and colloid chemistry. In addition, many other papers (especially those listed under the headings of photographic theory and practical photography) have considerable interest from the chemical point of view.

BELIEVING A TANK OF STRONG CAUSTIC SODA to contain water James Iverson, aged 27, plunged into it after his clothes caught fire at a varnish works at Stratford last week. He and another workman were adding benzine to pitch when his clothing burst into flames from head to foot. Iverson plunged his head into the tank, and his companion pushed the whole of his body in. When taken from the tank he was suffering from severe burns, and died in hospital from shock. An open verdict was returned, the jury stating that there was no evidence to show how the fire originated.

THE EARL OF BALFOUR has corrected a mistaken impression caused by a speech he made recently in the House of Lords on the pollution of rivers. In a letter from him, read at a luncheon in connection with the formation of the British Tar Association, he stated that he saw it was possible to interpret his speech as meaning that all roads on which tar derived from coal is used pollute the rivers. It was only the roads bordering on rivers which had an injurious effect on fish life. He quite agreed in attaching much value to the maximum utilisation of this important product of the coal industry. Mr. W. J. U. Woolcock said that only 5 per cent. of the roads of the country drained into rivers.

ARTIFICIAL SILK NEWS.—The Vereinigte Glanzstoff Co., of Germany, proposes to increase its capital by 18,300,000 marks to a total of 60,900,000. The new capital is needed for works extensions and the financing of various home and foreign activities.—A recent report from Bradford states that acetate silk is being developed by Bulmer Rayon, and that a product of the finest quality will shortly be placed on the market.—Further artificial silk developments in Lancashire are foreshadowed in the registration of Nelson's Silks, a company with a nominal capital of £100,000, controlled by the textile firm of the same name. Nelson's Silks has acquired a large site at Lancaster, where it is proposed to erect an artificial silk factory. The company was formerly controlled by Lustrafil, Ltd., which owned a small artificial silk plant at Nelson.—It is reported that Dr. Alfred Perl, of the Kohorn Company of Chemnitz and Vienna, who was appointed technical adviser to the Branston Artificial Silk Co. has terminated his agreement.

Obituary

GUSTAVE ANDRE, professor of agricultural chemistry at the National Institute of Agronomy in Paris, on May 14, aged 70.

HANS BLUCHER, member of the editorial staff of the *Chemiker-Zeitung*, on July 11, aged 59. He was well-known in Germany as a consulting chemical engineer, and was an authority on plastic masses.

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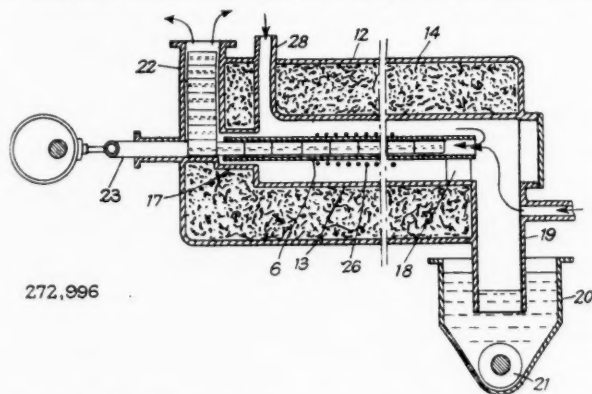
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The following information is prepared from published Patent Specifications and from the Illustrated Official Journal (Patents) by permission of the Controller to H.M. Stationery Office. Printed copies of full Patent Specifications accepted may be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, at 1s. each.

Abstracts of Complete Specifications

272,996. CYANIDES, PROCESS AND APPARATUS FOR MANUFACTURING. O. Stalhane, 48, Storgatan, Stockholm. Application date, March 23, 1926.

The cyanides are produced by the process in which a mixture of carbon and an alkali or alkaline earth metal compound and a catalyst is heated with nitrogen to a high temperature. This



mixture is briquetted and heated in a comparatively small tube so that an even temperature is maintained and overheating of the tube is avoided. The furnace 12 contains a number of tubes 13 of metal or fireproof material, surrounded by heat insulating material 14. Smaller tubes 6 are arranged concentrically and are supported on an extension 17 of the tube 13, and on a support 18. The briquettes are fed through an inlet 22 and a reciprocating plunger 23 feeds them into the pipe 6 from which they are discharged through a passage 19 into a receiver 20 containing water and provided with a conveyor 21. The pipes 6 are provided with electric heating coils 26, or an electric current may be passed through the walls when metal pipes are employed. Nitrogen is introduced through pipes 27, 28, and passes through and over the briquettes in the tube 6, and also over the heating element 26 to protect it from oxidation. The briquettes may be perforated or annular.

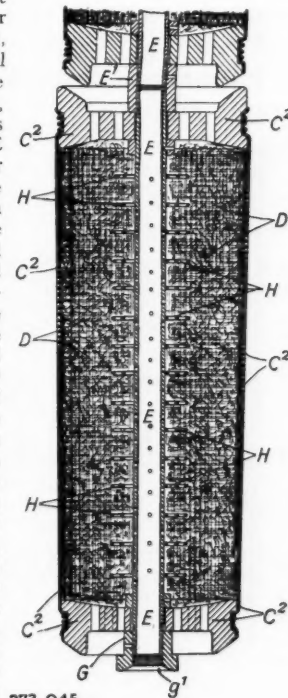
273,043. ELECTROLYTIC DESULPHONATION OF ANTHRAQUINONE SULPHONIC ACIDS. British Dyestuffs Corporation, Ltd., 70, Spring Gardens, Manchester, and A. J. Hailwood, Crumpsall Vale Chemical Works, Blackley, Manchester. Application date, April 15, 1926.

Anthraquinone sulphononic acids have been desulphonated by heating the solutions in 80 per cent. sulphuric acid to a high temperature in the presence of a mercury catalyst. It is now found that by electrolytic reduction of the sodium or potassium salts of anthraquinone sulphononic acids in a divided cell in alkaline solution those acid groups occupying α -positions are mostly removed and replaced by hydrogen, while those in β -positions are scarcely affected. Reduction of the carbonyl groups of the anthraquinone residue readily takes place in the cathode chamber, so that the product from which the α -sulphonic groups have been removed is found in the cathode solution as an oxanthrol. This may be oxidised in alkaline solution by a current of air to the anthraquinone. The desulphonation is subsequent to the reduction to the oxanthrol, and since this is readily oxidised back to the anthraquinone, it is necessary to exclude air from the cathode chamber. Mercury or amalgamated copper may be used as the cathode and the current density may be 2-3 amperes per square decimetre. The reaction is preferably effected at a raised temperature. Examples are given of the treatment of disodium anthraquinone-1:5-disulphonate, the dipotassium salt of anthraquinone-1:8-disulphonic acid, the disodium salts of anthraquinone-1:6- and 1:7-disulphonic acid, the sodium salt of anthraquinone- α -sulphonic acid. Anthraquinone sulphononic

acids containing halogen, amino, or other substituent groups may also be treated by this process.

273,045. HYDROGENATION OF LIQUIDS, PROCESS FOR. G. R. Schueler, 3, Ash Grove, Beverley Road, Kingston-on-Hull. Application date, April 16, 1926.

The hydrogenating chamber consists of a long vertical cylinder surrounded by a jacket through which steam or hot air is circulated. The catalyst, which may consist of nickel turnings, is contained in three cylindrical cages, of which one, C², is shown in vertical cross section. A perforated tube E passes through the cage for the supply of hydrogen to the catalyst D and the liquid which is to be hydrogenated. The superposed cages are connected together by internally threaded collars E¹ into which the adjacent ends of the tubes are screwed. The lower end of the lowest tube E carries a flanged collar G having a seating g¹ which rests on the bottom of the casing through which the hydrogen is admitted. The liquid to be hydrogenated is sprayed into the top of the casing, and passes downwards through the catalyst D in the three cages in succession. A number of spirals of nickel wire H are welded to the tube E and embedded in the catalyst to ensure an effective electrical connection between the tube E and the catalyst, the tube forming an electrical terminal during the process of anodic activation. The connection of the three cages C² by the sleeves E¹ enables them to be withdrawn or replaced simultaneously in the casing.



273,093. AMMONIUM CHLORIDE CRYSTALS, MANUFACTURE OF. J. W. Moore, Kinderton House, Weston Road, Runcorn, Cheshire; W. G. Polack, Glamis House, Chapel Lane, Frodsham, Cheshire; and Castner-Kellner Alkali Co., Ltd., Weston Point, Runcorn, Cheshire. Application date, June 25, 1926.

The process is for the manufacture of tough fibrous crystals of ammonium chloride similar to those usually produced by sublimation. Synthetic ammonia is caused to react with gaseous hydrochloric acid at such velocity that a high reaction temperature is developed, when it is found that the ammonium chloride is in the desired crystalline form. In an example, gaseous synthetic ammonia and an equivalent quantity of gaseous hydrochloric acid containing 30 per cent. of free hydrogen are passed through a cylinder having an internal diameter of 21 in. and a length of 13 ft., at a rate sufficient to produce 6 lb. of ammonium chloride per hour. A temperature of 300° C. is developed, and the product is in the form of tough fibrous crystals.

273,346. GOLD FROM SEA-WATER, PROCESS FOR THE EXTRACTION OF. B. Stoces, Pribram, Czechoslovakia. Application date, December 23, 1925.

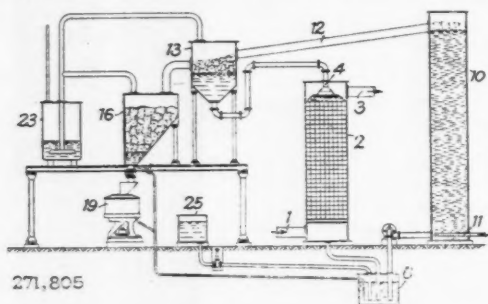
Sea-water is said to contain about 3.5 grams of gold per ton of water and it is proposed to extract this economically by treating the water with metallic sulphides which combine with or retain gold, such as antimony sulphide.

NOTE.—Abstracts of the following specifications which are now accepted, appeared in THE CHEMICAL AGE when they became open to inspection under the International Convention:—249,890 (I.G. Farbenindustrie Akt.-Ges.), relating to halogenated benzanthrone derivatives containing sulphur, see Vol. XIV, p. 578; 249,891 (I.G. Farbenindustrie Akt.-Ges.), relating to condensation products of the benzanthrone series and vat dyestuffs containing nitrogen, see Vol. XIV, p. 578; 255,818 (F. Fischer and H. Tropsch), relating to paraffin hydrocarbons with more than one carbon atom, see Vol. XV, p. 331; 255,904 (I.G. Farbenindustrie Akt.-Ges.), relating to adsorbents and catalysts, see Vol. XV, p. 356; 258,563 (Soc. of Chemical Industry in Basle), relating to dyestuffs, see Vol. XV, p. 501; 259,977 (A. Binz and C. Rath), relating to iodopyridine, see Vol. XV, p. 620; 268,721 (Soc. l'Air Liquide, Soc. Anon. pour l'Etude et l'Exploitation des Procédés G. Claude), relating to ammonia synthesis, see Vol. XVI, p. 558.

International Specifications not yet Accepted

271,805. PURIFYING GASES. C. Still, Recklinghausen, Germany. International Convention date, May 25, 1926.

Gases are washed with an aqueous suspension containing ferrous and ferric hydroxides or carbonates, which is afterwards regenerated by treating with air. The suspension



contains less than 2 per cent. of iron. Coke oven gas, coal gas, or producer gas is freed from tar and cyanogen compounds, and is passed upwards through a tower 2 into which the aqueous suspension is sprayed at 4. Ammonia, sodium hydrate or carbonate may be added to the liquor to render it alkaline. The sulphided liquor passes to a tank 6 and then to the bottom of a regenerating tower 10 having an air inlet pipe 11. The regenerated suspension of ferric hydroxide or carbonate mixed with sulphur overflows as a foam into the pipe 12 and receiver 13, where the sulphur remains as a foam and the suspension is returned to the sprayer 4. The foam passes to a vessel 16 and centrifuge 19. The accompanying gases pass to a vessel 23 containing acid, to recover ammonia. Some iron is withdrawn with the sulphur, and must be replaced. Thiosulphate solution gradually accumulates in the plant, and is drawn off and replaced by more alkali.

271,840. METHANOL. Commercial Solvents Corporation, Terre Haute, Ind., U.S.A. (Assignees of J. C. Woodruff, 1526, South Sixth St., Terre Haute, and G. Bloomfield, 1306, South Center St., Terre Haute, Ind., U.S.A.) International Convention date, May 26, 1926.

The invention consists of new catalysts for the production of methanol. They are mixtures of (1) one or more difficultly reducible oxides of metals of the second or sixth groups such as zinc, magnesium, cadmium, chromium, vanadium, tungsten; (2) one or more easily reducible oxides such as those of copper, silver, iron, nickel, cobalt; (3) a metallic halide such as zinc or magnesium chloride or bromide, copper or chromium chloride. A number of examples are given of the preparation of these catalysts.

271,852. REMOVING CARBON DIOXIDE FROM GASES. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, May 28, 1926.

The nitrogen-hydrogen mixture used for the synthesis of ammonia is freed from carbon dioxide by washing with aqueous ammonia in a series of scrubbing towers through which the liquid is continuously circulated by pumps through coolers.

271,863. PRESERVING RUBBER LATEX. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, May 28, 1926.

Coagulation of latex is prevented by adding mono-, di-, or tri-alkylamine, cyclohexylamine, benzylamine, piperidine and its alkyl derivatives, or trihydroxy-ethylamine.

271,869. SEPARATING MIXTURES OF ALKALI SALTS. E. Weitz, 30, Wettmerstrasse, Halle, Germany. International Convention date, May 26, 1926.

Mixtures containing potassium or sodium salts of different acids, or mixtures with ammonium salts, of organic or mixed inorganic and organic acids are separated by treating with ammonia in aqueous solution. It has been found that the relative solubilities of various salts are changed by the addition of ammonia. A large number of examples are given, including the separation of potassium and sodium nitrate, sodium nitrate and chloride, sodium carbonate and formate, potassium and sodium ferrocyanide, potassium and sodium chloride, etc.

271,873. ZIRCONIUM COMPOUNDS. Titanium Alloy Manufacturing Co., 94, Fulton Street, New York. (Assignees of C. J. Kinzie, Niagara Falls, N.Y., U.S.A.) International Convention date, May 27, 1926.

Silicious zirconium ore is fused with sodium carbonate at 950° C. and dissolved in dilute sulphuric or oxalic acid. Potassium chloride is added, and on cooling zirconium-potassium sulphate separates, leaving silicon, titanium, and iron compounds in solution. The double salt is calcined, and the potassium sulphate then dissolved out, leaving zirconium oxide.

271,881. NITRIC, HYDROCHLORIC AND ACETIC ACIDS. H. Frischer, 91, Kerpenerstrasse, Lindenthal, Cologne, Germany. International Convention date, May 27, 1926.

In producing these acids by adding sulphuric acid to a salt of the acid, some of the acid to be obtained is also added to the mixture—e.g., 5–10 per cent. of nitric acid is added when treating nitrates. The whole of the nitric acid is then obtained by heating to 200°–350° C.

271,884 and 272,225. ANTHRAQUINONYL- α -KETONES. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention dates, May 25, 1926, and June 7, 1926.

271,884. These are obtained by oxidising benzantrones or substitution products substituted by an aryl group in the benzene ring, e.g., by chromic acid in glacial acetic acid. Thus, α -benzol-anthraquinone is obtained from Bz1-phenyl-benzanthrone, anthraquinone- α -benzil from Bz1-Bz1'-dibenzanthronyl, monophthaloylbenzil from Bz1-hydroxy-Bz2-phenylbenzanthrone.

272,225. This is an addition to 271,884. The ketones are obtained by oxidising a benzanthrone or substitution product having an aroyl residue as substituent in the benzene ring. Thus, Bz1-benzanthrone carboxylic chloride is condensed with benzene in presence of aluminium chloride and the Bz1-benzoyl-benzanthrone oxidised with chromium trioxide in glacial acetic acid, yielding a monophthaloyl-benzil.

271,898. SULPHONIC ACIDS. Soc. of Chemical Industry in Basle, Switzerland. International Convention date, May 29, 1926.

The distillation residues from benzaldehyde and turpentine are sulphonated by treating with sulphuric acid, fuming sulphuric acid or chloresulphonic acid to obtain products for making preparations of finely-divided dyestuffs. A protective colloid such as sulphate cellulose lye may be added. A number of examples are given of the preparations of these sulphonics acids, and of dyestuff products.

271,906. DYES. I. G. Farbenindustrie Akt.-Ges., Frankfort-on-Main, Germany. International Convention date, May 29, 1926.

Thioglycollic acids are treated with chloresulphonic acid and the resulting oxythionaphthenes oxidised with potassium ferricyanide or air in the presence of copper sulphate to thioindigos. The following thioglycollic acids may be so treated:—3:5-dimethyl-4-halogen-phenyl-1-thioglycollic acid, 3:4-dimethyl-5-halogenphenyl-1-thioglycollic acid, 5-methyl-2:4-dihalogenphenyl-1-thioglycollic acid, 3-methyl-4-halogenphenyl-1-thioglycollic acid, and 5-methyl-2-halogenphenyl-1-thioglycollic acid, or a substitution product having a nitrile

group, a CONH₂ group or a carboxyl group in the *o*-position to the thioglycolic acid group. Some oxythionaphthenes may be condensed with the usual indigoid dye components. 3:5-Dimethyl-4-chlorophenyl-thioglycolic acid is obtained from 3:5-dimethyl-4-chlor-1-aminobenzene in the usual way, or by transforming 2:6-dimethyl-1-aminobenzene into the corresponding thiocyanogen compound, replacing the NH₂ group by chlorine, and converting the thiocyanogen group into the thioglycolic acid group.

272,198. FATTY ACIDS. C. Stiepel, 25, Spreestrasse, Charlottenburg, Berlin. International Convention date, June 4, 1926.

Fats, fatty oils, fatty acids or their soaps are chlorinated and hydroxyl substituted for the chlorine in known manner by heating above 100° C. with water containing alkalies or alkaline earths, to obtain fatty acids containing determined proportions of hydroxy acids. An example is given of the treatment of Japanese train oil.

LATEST NOTIFICATIONS.

- 274,814. Process and apparatus for the continuous manufacture of cellulose acetate. Soc. Chimique des Usines du Rhone. July 26, 1926.
- 274,823. Process for dyeing acetate silk. I. G. Farbenindustrie Akt.-Ges. July 24, 1926.
- 274,828. Bleaching of mineral oils and fats. I. G. Farbenindustrie Akt.-Ges. July 21, 1926.
- 274,841. Application of cellulose esters and ethers, and products thereby obtained. British Celanese, Ltd. July 23, 1926.
- 274,858. Dehydration of moist fuel. I. G. Farbenindustrie Akt.-Ges. July 21, 1926.
- 274,881. Process for the continuous conversion of solids, solutions, and gases. Meyerhofer, A. F. July 24, 1926.
- 274,882. Process for the electrolytic separation of metallic chromium for the preparation of chromium coatings on other metals. Appel, R. July 21, 1926.
- 274,883. Production of carbon. Lederer, A. July 21, 1926.
- 274,892. Process for opening-up materials containing cellulose. I. G. Farbenindustrie Akt.-Ges. July 21, 1926.
- 274,894. Manufacture of carboxylic acids of acenaphthene. I. G. Farbenindustrie Akt.-Ges. July 24, 1926.
- 274,902. Manufacture of derivatives of acenaphthene. I. G. Farbenindustrie Akt.-Ges. July 24, 1926.
- 274,904. Catalytic gas reactions. I. G. Farbenindustrie Akt.-Ges. July 24, 1926.
- 274,905. Scavenging the residues of combustion deposited on the sliding surfaces of internal-combustion engines operated by pulverulent fuel. I. G. Farbenindustrie Akt.-Ges. July 26, 1926.

Specifications Accepted with Date of Application

- 249,156, 249,501, 274,401 and 274,404. Liquid and other hydrocarbons and derivatives thereof from mineral oil or other bitumens, Manufacture and production of—and solid or liquid products obtained therefrom. I. G. Farbenindustrie Akt.-Ges. March 14 and March 19, 1925, and March 8 and March 13, 1926. 274,401 addition to 247,583. 274,404 addition to 249,156.
- 250,909. Azo dyestuffs and lakes insoluble in water, Process for the production of. I. G. Farbenindustrie Akt.-Ges. April 18, 1925.
- 250,968. Derivatives of the anthraquinone series, Manufacture of. I. G. Farbenindustrie Akt.-Ges. April 17, 1925.
- 253,507. Light hydrocarbons from heavy cyclic hydrocarbons or derivatives, Process for obtaining. A. J. Kling and J. M. F. D. Florentin. June 12, 1925.
- 263,853. Aldehyde amine condensation products and products produced thereby, Process of producing. Grasselli Chemical Co. March 13, 1925.
- 269,921. Superphosphates, Process for treating. A. Gaillard. April 22, 1926.
- 270,340. Centrifugal apparatus for treating gases with liquids. L. Theisen and F. H. E. Theisen. May 3, 1926. Addition to 265,120.
- 273,622 and 273,810. Oxygen containing aliphatic compounds, Production of. H. Dreyfus. June 26, 1925.
- 274,146. Synthetic resinous materials, Method of forming. J. V. Meigs. February 9, 1926.
- 274,155. Resinous condensation products from amines of the aromatic series, Process for the production of. A. L. Mond. (I. G. Farbenindustrie Akt.-Ges.) March 15, 1926.
- 274,156. Dyes and dyeing. H. A. E. Drescher, J. E. G. Harris, B. Wylam, J. Thomas, and Scottish Dyes, Ltd., March 15, 1926.
- 274,175. *N*-monoalkyl-*p*-aminophenol, Process for the manufacture of. H. E. Potts. (Chemische Fabrik Grunau, Landshoff, and Meyer Akt.-Ges.) April 10, 1926.

- 274,197-8. Solid sodium hypochlorite preparations, Manufacture and production of. M. P. Applebey and C. Carter. April 16, 1926.
- 274,211. Anthraquinone derivatives, Process for the manufacture of. W. Carpmæl. (I. G. Farbenindustrie Akt.-Ges.) April 19, 1926.
- 274,226. Indanthrone disulphonic acids and indanthrone, Method for the preparation of. British Dyestuffs Corporation, Ltd., A. Shepherdson and A. J. Hallwood. April 26, 1926.
- 274,233. Oxide cathodes, Manufacture of. H. Wade. (Naamlooze Vennootschap Philips' Gloeilampenfabrieken.) April 30, 1926.
- 274,259. Alkylene diguanidines, Process for the production of. M. Heyn. June 18, 1926. Addition to 272,686.
- 274,263. Ammonium chloride, Process of manufacturing. J. W. Moore, W. G. Polack, and Castner-Kellner Alkali Co., Ltd. June 25, 1926.
- 274,283. Sintering of refractory metals, Process for. N. R. Davis, and Metropolitan-Vickers Electrical Co., Ltd. July 26, 1926.
- 274,297. Silica from zinc, copper, and vanadium solutions. Removal of. R. H. Stevens, G. C. Norris, and W. N. Watson. August 23, 1926.
- 274,303. Dyes and dyeing. B. Wylam, J. E. G. Harris, J. Thomas, and Scottish Dyes, Ltd. March 1, 1926.
- 274,366. 1-phenyl-3-methyl-5-pyrazolone, Manufacture of. O. Y. Imray. (I. G. Farbenindustrie Akt.-Ges.) February 5, 1927.
- 274,405. Electrolytic process and apparatus. H. C. Harrison. January 5, 1926.

Applications for Patents

- Bakelite Corporation. Artificial resin compositions. 19,841. July 26. (United States, August 3, 1926.)
- British Dyestuffs Corporation, Ltd. Dyes, etc. 19,991. July 27.
- Calcott, W. S., and Lorrinan, F. R. Production of tetra-ethyl lead. 19,868. July 26. (United States, November 3, 1926.)
- Carpmael, A. and I. G. Farbenindustrie Akt.-Ges. Vat dyeing of leuco ester compounds of indigo dyestuffs, etc. 19,800. July 26.
- Carpmael, A., and I. G. Farbenindustrie Akt.-Ges. Manufacture of chlorides, etc., of silicon and titanium. 19,859. July 26.
- Carpmael, A., and I. G. Farbenindustrie Akt.-Ges. Manufacture of sulphur dyestuffs. 20,110. July 28.
- Carpmael, A., and I. G. Farbenindustrie Akt.-Ges. Treatment of cellulose. 20,111. July 28.
- Chapman, W. H., and Dunlop Rubber Co., Ltd. Deposition of organic materials from aqueous dispersions. 19,641. July 25.
- Compagnie de Bethune. Catalysts for synthesis of alcohols. 19,649. July 25.
- Crood, A. K. (Hanovia Chemical and Manufacturing Co.). Water-cooled mercury-vapour arc lamps. 19,940. July 27.
- Dreyfus, H. Manufacture of aliphatic compounds. 20,280. July 30.
- Du Pont de Nemours and Co., E. I. Rubber compositions. 19,839. July 26. (United States, August 31, 1926.)
- Fagelson, I., and Smith, F. E. Oxidation of ammonia. 20,275. July 30.
- Holliday and Co., Ltd., L. B., and Shaw, C. Production of black vat dyestuffs. 20,053. July 28.
- I. G. Farbenindustrie Akt.-Ges. Vat dyeing of leuco ester compounds of indigo dyestuffs, etc. 19,860. July 26.
- I. G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Manufacture of alkali metal, etc., phosphates. 19,974. July 27.
- I. G. Farbenindustrie Akt.-Ges. and Johnson, J. Y. Manufacture of cobalt carbonyl. 20,080. July 28.
- I. G. Farbenindustrie Akt.-Ges. Catalytic gas reactions. 19,679. July 25. (Germany, July 24, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Scavenging internal-combustion engines. 19,680. July 25. (Germany, July 27, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Scavenging internal-combustion engines. 19,681. July 25. (Germany, July 26, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Manufacture of triarylmethane-dyestuffs. 19,985. July 27. (Germany, August 9, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Manufacture of stable diazo-salt preparations. 19,986. July 27. (Germany, August 2, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Production of yellow dyes on cellulose esters. 19,711. July 25. (Germany, July 29, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Supplying heat in high-pressure reactions. 20,079. July 28. (Germany, July 28, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Manufacture of azo-dyestuffs. 20,087. July 28. (Germany, August 5, 1926.)
- I. G. Farbenindustrie Akt.-Ges. Production of coloured compounds. 20,184. July 29.
- I. G. Farbenindustrie Akt.-Ges. Manufacture of azo-dyestuffs. 20,194. July 29. (Germany, July 29, 1926.)
- Imray, O. Y., and Monsanto Chemical Works. Production of benzoic acid from phthalic anhydride. 20,193. July 29.
- Meyerhofer, A. F. Decomposing salts of complex hydrofluoric acids. 20,115. July 28.
- Miller, W. B., and Olpin, H. C. Dyeing, etc., materials containing cellulose acetate. 20,279. July 30. (September 30, 1926.)

Weekly Prices of British Chemical Products

The prices and comments given below respecting British chemical products are based on direct information supplied by the British manufacturers concerned. Unless otherwise qualified, the figures quoted apply to fair quantities, net and naked at makers' works.

General Heavy Chemicals

ACID ACETIC, 40% TECH.—£19 per ton.
 ACID BORIC, COMMERCIAL.—Crystal, £34 per ton; powder, £36 per ton.
 ACID HYDROCHLORIC.—3s. 9d. to 6s. per carboy d/d, according to purity, strength, and locality.
 ACID NITRIC, 80° Tw.—£21 10s. to £27 per ton, makers' works, according to district and quality.
 ACID SULPHURIC.—Average National prices f.o.r. makers' works, with slight variations up and down owing to local considerations: 140° Tw., Crude Acid, 60s. per ton. 168° Tw., Arsenical, £5 10s. per ton. 168° Tw., Non-arsenical, £6 15s. per ton.
 AMMONIA ALKALI.—£6 15s. per ton f.o.r. Special terms for contracts.
 BISULPHITE OF LIME.—£7 10s. per ton, packages extra, returnable.
 BLEACHING POWDER.—Spot, £9 10s. per ton d/d; Contract, £8 10s. per ton d/d, 4-ton lots.
 BORAX, COMMERCIAL.—Crystals, £19 10s. to £20 per ton; granulated, £19 per ton; powder, £21 per ton. (Packed in 2-cwt. bags, carriage paid any station in Great Britain.)
 CALCIUM CHLORIDE (SOLID).—£5 to £5 5s. per ton d/d carr. paid.
 COPPER SULPHATE.—£25 to £25 10s. per ton.
 METHYLATED SPIRIT 61 O.P.—Industrial, 2s. 5d. to 2s. 10d. per gall.; pyridinised industrial, 2s. 7d. to 3s. per gall.; mineralised, 3s. 6d. to 3s. 10d. per gall.; 64 O.P., 1d. extra in all cases; prices according to quantity.
 NICKEL SULPHATE.—£38 per ton d/d.
 NICKEL AMMONIA SULPHATE.—£38 per ton d/d.
 POTASH CAUSTIC.—£30 to £33 per ton.
 POTASSIUM BICHROMATE.—4½d. per lb.
 POTASSIUM CHLORATE.—3½d. per lb., ex wharf, London, incwt. kegs.
 SALAMMONIAC.—£45 to £50 per ton d/d. Chloride of ammonia, £37 to £45 per ton, carr. paid.
 SALT CAKE.—£3 15s. to £4 per ton d/d. In bulk.
 SODA CAUSTIC, SOLID.—Spot lots delivered, £15 2s. 6d. to £18 per ton, according to strength; 20s. less for contracts.
 SODA CRYSTALS.—£5 to £5 5s. per ton, ex railway depots or ports.
 SODIUM ACETATE 97/98%.—£21 per ton.
 SODIUM BICARBONATE.—£10 10s. per ton, carr. paid.
 SODIUM BICHROMATE.—3½d. per lb.
 SODIUM BISULPHITE POWDER, 60/62%.—£17 10s. per ton for home market, 1-cwt. drums included.
 SODIUM CHLORATE.—2½d. per lb.
 SODIUM NITRITE, 100% BASIS.—£27 per ton d/d.
 SODIUM PHOSPHATE.—£14 per ton, f.o.r. London, casks free.
 SODIUM SULPHATE (GLAUBER SALTS).—£3 12s. 6d. per ton.
 SODIUM SULPHIDE CONC. SOLID, 60/65.—£13 5s. per ton d/d. Contract, £13. Carr. paid.
 SODIUM SULPHIDE CRYSTALS.—Spot, £8 12s. 6d. per ton d/d. Contract, £8 10s. Carr. paid.
 SODIUM SULPHITE, PEA CRYSTALS.—£14 per ton f.o.r. London, 1-cwt. kegs included.

Coal Tar Products

ACID CARBOLIC CRYSTALS.—8d. to 9d. per lb. Crude 60's, 2s. 4½d. to 2s. 8d. per gall.
 ACID CRESYLIC 99/100.—2s. 8d. to 2s. 9d. per gall. 97/99.—2s. 1½d. to 2s. 4½d. per gall. Pale, 95%, 2s. to 2s. 3d. per gall. Dark, 1s. 9d. to 2s. 1d. per gall.
 ANTHRACENE.—A quality, 2½d. to 3d. per unit. 40%, 3d. per unit.
 ANTHRACENE OIL, STRAINED.—8d. to 8½d. per gall. Unstrained, 7½d. to 8d. per gall.; both according to gravity.
 BENZOLE.—Crude 65's, 11d. to 1s. per gall., ex works in tank wagons. Standard Motor, 1s. 9d. to 2s. 2d. per gall., ex works in tank wagons. Pure, 1s. 7d. to 2s. 3d. per gall., ex works in tank wagons.
 TOLUOLE.—90%, 1s. 8d. to 1s. 10½d. per gall. Firm. Pure, 2s. to 2s. 3½d. per gall.
 XYLOL.—2s. to 2s. 4d. per gall. Pure, 2s. 5d. per gall.
 CREOSOTE.—Cresylic, 20/24%, 10½d. per gall. Standard specification, 6½d. to 8½d.: middle oil, 7½d. to 7½d. per gall. Heavy, 8½d. to 8½d. per gall. Salty, 7d. per gall. less 1½%.
 NAPHTHA.—Crude, 7½d. to 8d. per gall. according to quality. Solvent 90/160, 1s. 2d. to 1s. 6d. per gall. Solvent 95/160, 1s. 5d. to 1s. 6d. per gall. Solvent 90/190, 11d. to 1s. 4d. per gall.
 NAPHTHALENE CRUDE.—Drained Creosote Salts, £7 10s. per ton. Whizzed or hot pressed, £8 10s. to £9 per ton.
 NAPHTHALENE.—Crystals, £11 10s. to £13 10s. per ton. Quiet. Flaked, £12 10s. to £13 per ton, according to districts.
 PITCH.—Medium soft, 80s. to 87s. 6d. per ton, f.o.b., according to district; nominal.
 PYRIDINE.—90/140, 7s. to 13s. per gall. Nominal. 90/180, 4s. 6d. to 5s. per gall. Heavy, 5s. to 8s. per gall.

Intermediates and Dyes

In the following list of Intermediates delivered prices include packages except where otherwise stated:
 ACID AMIDONAPHTHOL DISULPHO (1-8-2-4).—10s. 9d. per lb.
 ACID ANTHRANILIC.—6s. per lb. 100%.
 ACID BENZOIC.—1s. 9d. per lb.
 ACID GAMMA.—4s. 9d. per lb.
 ACID H.—3s. 3d. per lb. 100% basis d/d.
 ACID NAPHTHIONIC.—1s. 6d. per lb. 100% basis d/d.
 ACID NEVILLE AND WINTHER.—4s. 9d. per lb. 100% basis d/d.
 ACID SULPHANILIC.—9d. per lb. 100% basis d/d.
 ANILINE OIL.—7½d. per lb. naked at works.
 ANILINE SALTS.—7½d. per lb. naked at works.
 BENZALDEHYDE.—2s. 3d. per lb.
 BENZIDINE BASE.—3s. 3d. per lb. 100% basis d/d.
 BENZOIC ACID.—1s. 8½d. per lb.
 o-CRESOL 29/31° C.—4½d. per lb. Fair inquiry.
 m-CRESOL 98/100%.—2s. 7½d. per lb. Only limited inquiry.
 p-CRESOL 32/34° C.—2s. 8½d. per lb. Only limited inquiry.
 DICHLORANILINE.—2s. 3d. per lb.
 DIMETHYLANILINE.—1s. 11d. per lb. d/d. Drums extra.
 DINITROBENZENE.—9d. per lb. naked at works. £75 per ton.
 DINITROCHLOROBENZENE.—£84 per ton d/d.
 DINITROTOLUENE.—48/50° C. 8d. per lb. naked at works. 66/68° C. 9d. per lb. naked at works.
 DIPHENYLAMINE.—2s. 10d. per lb. d/d.
 a-NAPHTHOL.—2s. per lb. d/d.
 B-NAPHTHOL.—11d. to 1s. per lb. d/d.
 a-NAPHTHYLAMINE.—1s. 3d. per lb. d/d.
 B-NAPHTHYLAMINE.—3s. per lb. d/d.
 o-NITRANILINE.—5s. 9d. per lb.
 m-NITRANILINE.—3s. per lb. d/d.
 p-NITRANILINE.—1s. 9d. per lb. d/d.
 NITROBENZENE.—6d. per lb. naked at works.
 NITRONAPHTHALENE.—1s. 3d. per lb. d/d.
 R. SALT.—2s. 2d. per lb. 100% basis d/d.
 SODIUM NAPHTHIONATE.—1s. 8½d. per lb. 100% basis d/d.
 o-TOLUIDINE.—7½d. per lb. naked at works.
 p-TOLUIDINE.—2s. 2d. per lb. naked at works.
 m-XYLIDINE ACETATE.—2s. 11d. per lb. 100%.
 N. W. Acid.—4s. 9d. per lb. 100%.

Wood Distillation Products

ACETATE OF LIME.—Brown, £8 10s. to £9 5s. per ton. Grey, £15 10s. per ton. Liquor, 9d. per gall. 32° Tw.
 CHARCOAL.—£6 15s. to £10 per ton, according to grade and locality.
 IRON LIQUOR.—1s. 3d. per gall. 32° Tw. 1s. per gall. 24° Tw.
 RED LIQUOR.—9d. to 10d. per gall. 16° Tw.
 WOOD CREOSOTE.—1s. 9d. per gall. Unrefined.
 WOOD NAPHTHA, MISCIBLE.—3s. 9d. to 4s. per gall., 60% O.P. Solvent, 3s. 11d. to 4s. 3d. per gall., 40% O.P.
 WOOD TAR.—£4 to £5 10s. per ton and upwards, according to grade.
 BROWN SUGAR OF LEAD.—£40 15s. to £41 10s. per ton.

Rubber Chemicals

ANTIMONY SULPHIDE.—Golden, 6½d. to 1s. 5½d. per lb., according to quality; Crimson, 1s. 4d. to 1s. 6d. per lb., according to quality.
 ARSENIC SULPHIDE, YELLOW.—1s. 9d. per lb.
 BARYTES.—£3 10s. to £6 15s. per ton, according to quality.
 CADMIUM SULPHIDE.—2s. 6d. to 2s. 9d. per lb.
 CARBON BISULPHIDE.—£20 to £25 per ton, according to quantity.
 CARBON BLACK.—5½d. per lb., ex wharf.
 CARBON TETRACHLORIDE.—£45 to £50 per ton, according to quantity, drums extra.
 CHROMIUM OXIDE, GREEN.—1s. 1d. per lb.
 DIPHENYLGUANIDINE.—3s. 9d. per lb.
 INDIARUBBER SUBSTITUTES, WHITE AND DARK.—5½d. to 6½d. per lb.
 LAMP BLACK.—£35 per ton, barrels free.
 LEAD HYPOSULPHITE.—9d. per lb.
 LITHOPONE, 30%.—£22 10s. per ton.
 MINERAL RUBBER "RUBPRON."—£13 12s. 6d. per ton, f.o.r. London.
 SULPHUR.—£9 to £11 per ton, according to quality.
 SULPHUR CHLORIDE.—4d. to 7d. per lb., carboys extra.
 SULPHUR PRECIP. B.P.—£47 10s. to £50 per ton.
 THIOCARBAMIDE.—2s. 6d. to 2s. 9d. per lb. carriage paid.
 THIOCARBANILIDE.—2s. 1d. to 2s. 3d. per lb.
 VERMILION, PALE OR DEEP.—6s. to 6s. 3d. per lb.
 ZINC SULPHIDE.—1s. per lb.

Pharmaceutical and Photographic Chemicals

ACID, ACETIC, PURE, 80%.—£39 per ton ex wharf London in glass containers.
 ACID, ACETYL SALICYLIC.—2s. 5d. to 2s. 6d. per lb.
 ACID, BENZOIC B.P.—2s. to 3s. 3d. per lb., according to quantity. Solely ex Gum, 1s. to 1s. 3d. per oz., according to quantity.

ACID, BORIC B.P.—5 cwt. lots Crystal, 41s. per cwt.; powder, 45s. per cwt. Carriage paid any station in Great Britain, in ton lots.

ACID, CAMPHORIC.—19s. to 21s. per lb.

ACID, CITRIC.—1s. 7½d. to 1s. 10d. per lb., less 5%.

ACID, GALLIC.—2s. 8d. per lb. for pure crystal, in cwt. lots.

ACID, PYROGALLIC, CRYSTALS.—7s. 3d. per lb. Resublimed, 8s. 3d. per lb.

ACID, SALICYLIC, B.P.—1s. 3d. to 1s. 6d. per lb.; Technical.—11½d. to 1s. per lb.

ACID, TANNIC B.P.—2s. 8d. to 2s. 10d. per lb.

ACID, TARTARIC.—1s. 3½d. per lb., less 5%. Firm market.

AMIDOL.—9s. per lb., d/d.

ACETANILIDE.—1s. 6d. to 1s. 8d. per lb. for quantities.

AMIDOPYRIN.—8s. 6d. per lb.

AMMONIUM BENZOATE.—3s. 3d. to 3s. 9d. per lb., according to quantity.

AMMONIUM CARBONATE B.P.—£37 per ton. Powder, £39 per ton in 5 cwt. casks. Resublimed: 1s. per lb.

ATROPINE SULPHATE.—11s. per oz. for English make.

BARBITONE.—6s. per lb.

BENZONAPHTHOL.—3s. 3d. per lb. spot.

BISMUTH CARBONATE.—9s. 9d. to 10s. per lb.

BISMUTH CITRATE.—9s. 6d. to 9s. 9d. per lb.

BISMUTH SALICYLATE.—8s. 9d. to 9s. per lb.

BISMUTH SUBNITRATE.—7s. 9d. to 8s. per lb.

BISMUTH NITRATE.—5s. 9d. to 6s. per lb.

BISMUTH OXIDE.—13s. 9d. to 14s. per lb.

BISMUTH SUBCHLORIDE.—11s. 9d. to 12s. per lb.

BISMUTH SUBGALLATE.—7s. 9d. to 8s. per lb. Extra and reduced prices for smaller and larger quantities respectively; Liquor Bismuthi B.P. in W. Qts. 1s. 1d. per lb.; 12 W. Qts. 1s. per lb.; 36 W. Qts. 11½d. per lb.

BORAX B.P.—5 cwt. lots, Crystal, 25s. per cwt.; powder, 27s. per cwt. according to quantity. Carriage paid any station in Great Britain, in ton lots.

BROMIDES.—Potassium, 1s. 11d. per lb.; sodium, 2s. 4d. per lb.; ammonium, 2s. 4d. per lb.; granulated ½d. per lb. less; all spot.

CALCIUM LACTATE.—1s. 3½d.

CAMPHOR.—Refined flowers, 2s. 11d. to 3s. 1d. per lb., according to quantity; also special contract prices.

CHLORAL HYDRATE.—3s. 6d. per lb., duty paid.

CHLOROFORM.—2s. 3d. to 2s. 7½d. per lb., according to quantity.

CREOSOTE CARBONATE.—6s. per lb.

ETHERS.—Prices for Winchester quarts; dozen Winchester quarts; carboys or drums; and 10 cwt. lots respectively: 730—1s. 2½d.; 1s. 2d.; 1s. 1½d.; 1s. 9d.; 720 technical—1s. 5½d.; 1s. 5d.; 1s. 4½d.; 1s. 3½d.; 720 pur. (Aether B.P., 1914)—2s. 4d.; 2s. 3½d.; 2s. 3d.; 2s. 2d.

FORMALDEHYDE.—£39 per ton, in barrels ex wharf.

GUAIACOL CARBONATE.—5s. per lb.

HEXAMINE.—2s. 4d. to 2s. 6d. per lb.

HOMATROPINE HYDROBROMIDE.—30s. per oz.

HYDRASTINE HYDROCHLORIDE.—English make offered at 120s. per oz.

HYDROGEN PEROXIDE (12 vols.).—1s. 4d. per gallon, f.o.r. makers' works, naked. B.P., 1 lb., 16s. per doz.; ½ lb., 9s. 6d. per doz.; ¼ lb., 6s. 6d. per doz.

HYDROQUINONE.—2s. 11d. per lb., in cwt. lots.

HYPOPHOSPHITES.—Calcium, 3s. 6d. per lb., for 28-lb. lots; potassium, 4s. 1d. per lb.; sodium, 4s. per lb.

IRON AMMONIUM CITRATE B.P.—2s. 1d. to 2s. 4d. per lb. Green, 2s. 4d. to 2s. 9d. per lb. U.S.P., 2s. 2d. to 2s. 5d. per lb.

IRON PERCHLORIDE.—4d. per lb., 22s. per cwt.

MAGNESIUM CARBONATE.—Light Commercial, £31 per ton net.

MAGNESIUM OXIDE.—Light commercial, £62 10s. per ton, less 2½%; Heavy Commercial, £21 per ton, less 2½%; in quantity lower; Heavy Pure, 2s. to 2s. 3d. per lb., in 1 cwt. lots.

MENTHOL.—A.B.R. recrystallised B.P., 18s. 6d. per lb. net; Synthetic detached crystals, 11s. 6d. to 14s. 6d. per lb., according to quantity; Liquid (95%), 12s. per lb.

MERCURIALS B.P.—Up to 1 cwt. lots, Red Oxide, 7s. 6d. to 7s. 7d. per lb., levig., 7s. to 7s. 1d. per lb.; Corrosive Sublimate, Lump, 5s. 9d. to 5s. 10d. per lb., Powder, 5s. 2d. to 5s. 3d. per lb.; White Precipitate, Lump, 5s. 11d. to 6s. per lb., Powder, 6s. to 6s. 1d. per lb., Extra Fine, 6s. 1d. to 6s. 2d. per lb.; Calomel, 6s. 4d. to 6s. 5d. per lb.; Yellow Oxide, 6s. 10d. to 6s. 11d. per lb.; Persulph., B.P.C., 6s. 1d. to 6s. 2d. per lb.; Sulph. nig., 5s. 10d. to 5s. 11d. per lb. Special prices for larger quantities.

METHYL SALICYLATE.—1s. 9d. per lb.

METHYL SULFONAL.—9s. 6d. to 9s. 9d. per lb.

METOL.—11s. per lb. British make.

PARAFORMALDEHYDE.—1s. 9d. per lb. for 100% powder.

PARALDEHYDE.—1s. 4d. per lb.

PHENACETIN.—2s. 9d. to 3s. per lb.

PHENAZONE.—4s. 3d. to 4s. 6d. per lb.

PHENOLPHTHALEIN.—6s. to 6s. 3d. per lb.

POTASSIUM BITARTRATE 99/100% (Cream of Tartar).—100s. per cwt. less 2½% for ton lots.

POTASSIUM CITRATE.—B.P.C., 1911; 1s. 8d. to 1s. 11d. per lb.; U.S.P.: 1s. 11d. to 2s. 2d. per lb.

POTASSIUM FERRICYANIDE.—1s. 9d. per lb., in cwt. lots.

POTASSIUM IODIDE.—16s. 8d. to 17s. 2d. per lb.

POTASSIUM METABISULPHITE.—6d. per lb., 1-cwt. kegs included, f.o.r. London.

POTASSIUM PERMANGANATE.—B.P. crystals, 6d. per lb., spot.

QUININE SULPHATE.—2s. per oz., 1s. 8d. for 1000 oz. lots in 100 oz. tins.

RESORCIN.—3s. 9d. to 4s. per lb., spot.

SACCHARIN.—55s. per lb.; in quantity lower.

SALOL.—2s. 4d. per lb.

SODIUM BENZOATE, B.P.—1s. 10d. to 2s. 2d. per lb.

SODIUM CITRATE, B.P.C., 1911.—1s. 8d. to 1s. 11d. per lb., B.P.C., 1923—2s. per lb. for 1 cwt. lots. U.S.P., 1s. 11d. to 2s. 2d. per lb., according to quantity.

SODIUM FERROCYANIDE.—4d. per lb., carriage paid.

SODIUM HYPOSULPHITE, PHOTOGRAPHIC.—£15 5s. per ton, d/d consignee's station in 1-cwt. kegs.

SODIUM NITROPRUSSIDE.—16s. per lb.

SODIUM POTASSIUM TARTRATE (ROCHELLE SALT).—90s. to 97s. 6d. per cwt. Crystals, 5s. per cwt. extra.

SODIUM SALICYLATE.—Powder, 1s. 9d. to 1s. 10d. per lb. Crystal, 1s. 10d. to 1s. 11d. per lb.

SODIUM SULPHIDE, PURE RECRYSTALLISED.—10d. to 1s. 2d. per lb.

SODIUM SULPHITE, ANHYDROUS, £27 10s. to £28 10s. per ton, according to quantity; 1-cwt. kegs included.

SULPHONAL.—6s. 6d. to 6s. 9d. per lb.

TARTAR EMETIC, B.P.—Crystal or powder, 2s. to 2s. 2d. per lb.

THYMOL.—Puriss., 10s. 6d. to 10s. 9d. per lb., according to quantity. Firmer. Natural, 15s. per lb.

Perfumery Chemicals

ACETOPHENONE.—6s. 6d. per lb.

AUBEPINE (EX ANETHOL), 10s. 6d. per lb.

AMYL ACETATE.—2s. per lb.

AMYL BUTYRATE.—5s. 3d. per lb.

AMYL SALICYLATE.—3s. per lb.

ANETHOL (M.P. 21/22° C.).—5s. 6d. per lb.

BENZYL ACETATE FROM CHLORINE-FREE BENZYL ALCOHOL.—2s. per lb.

BENZYL ALCOHOL FREE FROM CHLORINE.—2s. per lb.

BENZALDEHYDE FREE FROM CHLORINE.—2s. 6d. per lb.

BENZYL BENZOATE.—2s. 6d. per lb.

CINNAMIC ALDEHYDE NATURAL.—17s. per lb.

COUMARIN.—10s. per lb.

CITRONELLOL.—13s. 9d. per lb.

CITRAL.—8s. 6d. per lb.

ETHYL CINNAMATE.—6s. 6d. per lb.

ETHYL PHTHALATE.—2s. 9d. per lb.

EUGENOL.—9s. per lb.

GERANIOL (PALMAROSA).—18s. 6d. per lb.

GERANIOL.—6s. 6d. to 10s. per lb.

HELIOTROPINE.—4s. 9d. per lb.

ISO EUGENOL.—13s. 6d. per lb.

LINALOL.—Ex Bois de Rose, 15s. per lb. Ex Shui Oil, 10s. 6d. per lb.

LINALYL ACETATE.—Ex Bois de Rose, 18s. 6d. per lb. Ex Shui Oil, 14s. 6d. per lb.

METHYL ANTHRANILATE.—8s. 6d. per lb.

METHYL BENZOATE.—4s. per lb.

MUSK KETONE.—35s. per lb.

MUSK XYLOL.—8s. 6d. per lb.

NEROLIN.—4s. 6d. per lb.

PHENYL ETHYL ACETATE.—12s. per lb.

PHENYL ETHYL ALCOHOL.—10s. 6d. per lb.

RHODINOL.—32s. 6d. per lb.

SAFROL.—1s. 6d. per lb.

TERPINEOL.—1s. 8d. per lb.

VANILLIN.—17s. to 18s. per lb.

Essential

ALMOND OIL.—11s. per lb.

ANISE OIL.—3s. per lb.

BERGAMOT OIL.—28s. per lb.

BOURBON GERANIUM OIL.—14s. 6d. per lb.

CAMPHOR OIL.—70s. per cwt.

CANANGA OIL, JAVA.—26s. per lb.

CINNAMON OIL LEAF.—6d. per oz.

CASSIA OIL, 80/85%.—7s. 6d. per lb.

CITRONELLA OIL.—Java, 85/90%, 1s. 11d. per lb. Ceylon, pure, 1s. 9d. per lb.

CLOVE OIL.—6s. per lb.

EUCALYPTUS OIL, 75/80%.—2s. 3d. per lb.

LAVENDER OIL.—Mont Blanc, 38/40%, Esters, 22s. 6d. per lb.

LEMON OIL.—8s. per lb.

LEMONGRASS OIL.—4s. 6d. per lb.

ORANGE OIL, SWEET.—10s. 6d. per lb.

OTTO OF ROSE OIL.—Anatolian, 30s. per oz. Bulgarian, 70s. per oz.

PALMA ROSA OIL.—10s. 6d. per lb.

PEPPERMINT OIL.—Wayne County, 18s. per lb. Japanese, 8s. per lb.

PETITGRAIN OIL.—7s. 9d. per lb.

SANDALWOOD OIL.—Mysore, 26s. 6d. per lb.; 90/95%, 16s. 6d. per lb.

Scottish Chemical Market

The following notes on the Scottish Chemical Market are specially supplied to THE CHEMICAL AGE by Messrs. Charles Tennant and Co., Ltd., Glasgow, and may be accepted as representing the firm's independent and impartial opinions.

Glasgow, August 3, 1927.

BUSINESS in the heavy chemical market still remains quiet—little or no change to report.

Industrial Chemicals

ACID ACETIC.—98 100%, £65 to £67 per ton according to quality and packing, c.i.f. U.K. ports; 80%, pure, £37 10s. per ton, ex wharf; 80%, technical, £37 10s. per ton, ex wharf.

ACID BORIC.—Crystal, granulated or small flakes, £34 per ton; powder, £36 per ton, packed in bags, carriage paid U.K. stations.

ACID CARBOLIC, ICE CRYSTALS.—In moderate demand and price unchanged at 8d. per lb., f.o.b. U.K. ports.

ACID CITRIC B.P. CRYSTALS.—Quoted 1s. 7d. per lb., less 5%, ex store for English material. Continental on offer at 1s. 8d. per lb., less 5%, c.i.f. U.K. ports.

ACID HYDROCHLORIC.—Usual steady demand. Arsenical quality, 4s. 9d. per carboy. Dearsenicated quality, 6s. 3d. per carboy, ex works.

ACID NITRIC, 80%.—Quoted £23 5s. per ton, ex station, full truck loads.

ACID OXALIC.—Still in good demand and price unchanged at 3d. per lb., ex store, spot delivery. Offered from the Continent at 2½d. per lb., ex wharf.

ACID SULPHURIC, 144°.—£3 12s. 6d. per ton; 168°, £7 per ton, ex works, full truck loads. Dearsenicated quality, 20s. per ton more.

ACID TARTARIC, B.P. CRYSTALS.—In moderate demand and price unchanged at 1s. 4d. per lb., ex wharf.

ALUMINA SULPHATE, 17 18%, IRON FREE.—Spot material quoted £5 12s. 6d. per ton, ex store. On offer for early delivery at £5 5s. per ton, c.i.f. U.K. ports.

ALUM POTASH.—Lump quality on offer from the Continent, £8 2s. 6d. per ton, c.i.f. U.K. ports; powdered, 2s. 6d. per ton less. Lump on spot on offer at £9 2s. 6d. per ton, ex store.

AMMONIA ANHYDROUS.—Unchanged at about 9d. per lb., carriage paid, containers extra and returnable.

AMMONIA CARBONATE.—Lump, £37 per ton; powdered, £39 per ton, packed in 5 cwt. casks delivered or f.o.b. U.K. ports.

AMMONIA LIQUID, 88°.—Unchanged at about 2½d. to 3d. per lb., delivered according to quantity.

AMMONIA MURIATE.—Grey galvanisers' crystals of English manufacture quoted £23 to £24 per ton, ex station. Continental on offer, £19 10s. per ton, c.i.f. U.K. ports. Fine white crystals of continental manufacture quoted £17 15s. per ton, c.i.f. U.K. ports.

ARSENIC, WHITE POWDERED.—In good demand, and price about £18 15s. per ton, ex wharf. Prompt despatch from mines. Spot material available at £19 5s. per ton, ex store.

BARIUM CARBONATE, 98/100%.—White powdered quality quoted £6 15s. per ton, c.i.f. U.K. ports.

BARIUM CHLORIDE, 98/100%.—Large white crystals quoted £7 2s. 6d. per ton, c.i.f. U.K. ports.

BARYTES.—English material unchanged at £5 5s. per ton, ex works. Continental quoted £5 per ton, c.i.f. U.K. ports.

BLEACHING POWDER.—Contract price to consumers, £8 per ton, ex station, minimum 4-ton lots. Spot material, 10s. per ton extra. Continental on offer at £7 5s. per ton, ex wharf.

BORAX.—Granulated, £19 10s. per ton; crystals, £20 per ton; powder, £21 per ton, carriage paid U.K. ports.

CALCIUM CHLORIDE.—English manufacturers' price unchanged at £5 to £5 5s. per ton, ex station, with a slight concession for contracts. Continental quoted £3 12s. 6d. per ton, c.i.f. U.K. ports.

COPPERAS, GREEN.—Unchanged at about £3 10s. per ton, f.o.b. works, or £4 12s. 6d. per ton, f.o.b. U.K. ports for export.

COPPER SULPHATE.—Continental material now quoted £23 15s. per ton, ex wharf. British material on offer at £23 10s. per ton, f.o.b. U.K. ports.

FORMALDEHYDE, 40%.—Unchanged at £38 per ton, c.i.f. U.K. ports, spot material quoted £39 5s. per ton, ex store.

GLAUBER SALTS.—English material unchanged at £4 per ton, ex store or station. Continental quoted £2 15s. per ton, c.i.f. U.K. ports.

LEAD, RED.—Imported material unchanged at £31 15s. per ton, ex store.

LEAD, WHITE.—Quoted £32 5s. per ton, ex store.

LEAD ACETATE.—White crystals offered from the Continent at £42 7s. 6d. per ton, c.i.f. U.K. ports; brown, about £43 5s. per ton, c.i.f. U.K. ports. White crystals offered on spot at about £43 15s. per ton, ex store.

MAGNESITE, GROUND CALCINED.—Quoted £8 10s. per ton, ex store. In moderate demand.

POTASH CAUSTIC, 88/92%.—Solid quality quoted £28 15s. per ton, c.i.f. U.K. ports, minimum, 15 ton lots; under 15 ton lots, £29 10s. per ton. Liquid, £15 per ton, minimum, 15 ton lots; under 15 ton lots, £15 7s. 6d. per ton, c.i.f. U.K. ports.

POTASSIUM BICHROMATE.—Unchanged at 4½d. per lb., delivered.

POTASSIUM CARBONATE.—96/98% quoted £27 5s. per ton, ex wharf, early shipment. Spot material on offer at about £28 10s. per ton, ex store.

POTASSIUM CHLORATE.—Powdered quality on offer at £24 5s. per ton, c.i.f. U.K. port. Crystals £2 per ton extra.

POTASSIUM NITRATE.—Refined granulated quality quoted £20 12s. 6d. per ton, c.i.f. U.K. ports. Spot material on offer at about £21 10s. per ton, ex store.

POTASSIUM PERMANGANATE, B.P. CRYSTALS.—Quoted 6½d. per lb., ex store, spot delivery.

POTASSIUM PRUSSIAN (YELLOW).—Rather quiet and spot material now offered at 6½d. per lb., ex store, spot delivery. Offered for prompt shipment from the continent at a fraction less.

SODA, CAUSTIC.—Powder, 98/99%, £19 7s. 6d. per ton; 76/77%, £15 10s. per ton; and 70/72%, £14 10s. per ton, carriage paid station; minimum 4 ton lots on contract. Spot material 10s. per ton extra.

SODIUM ACETATE.—English material quoted £21 10s. per ton, ex store. Continental on offer at £17 15s. per ton, c.i.f. U.K. ports.

SODIUM BICARBONATE.—Refined recrystallised quality, £10 10s. per ton, ex quay or station. M.W. quality, 30s. per ton less.

SODIUM BICHROMATE.—Quoted 3½d. per lb., delivered buyers' works.

SODIUM CARBONATE (SODA CRYSTALS).—£5 to £5 5s. per ton, ex quay or station; powdered or pea quality, £1 7s. 6d. per ton; alkali, 58%, £8 12s. 3d. per ton, ex quay or station.

SODIUM HYPOSULPHITE.—Large crystals of English manufacture quoted £9 10s. per ton, ex store; minimum 4 ton lots. Continental on offer at about £8 2s. 6d. per ton, ex wharf, prompt shipment. Pea crystals of British manufacture quoted £15 5s. per ton, ex station, 4 ton lots.

SODIUM NITRITE, 100%.—Quoted £19 15s. per ton, ex store.

SODIUM PRUSSIAN (YELLOW).—In moderate demand and price unchanged at about 4½d. per lb., ex store. Offered for prompt shipment from the continent at 4½d. per lb., ex wharf.

SODIUM SULPHATE (SALTCAKE).—Price for home consumption, £3 7s. 6d. per ton, ex works.

SODIUM SULPHIDE.—Prices for English material as follows: 60/62%, solid now £10 10s. per ton; broken, £11 10s. per ton; flake, £13 5s. per ton; crystals, 31/34%, £7 10s. per ton to £8 5s. per ton, according to quality, delivered your works, minimum 4 ton lots on contract. Prices for spot delivery 5s. per ton higher for solid, 2s. 6d. per ton for crystals. Offered from the continent at about £9 5s. per ton, c.i.f. U.K. ports, broken, 15s. per ton extra.

SULPHUR.—Flowers, £12 10s. per ton; roll, £11 per ton; rock, £11 per ton; floristella, £10 per ton; ground American, £9 5s. per ton, ex store. Prices nominal.

ZINC CHLORIDE.—British material, 98/100%, quoted £24 15s. per ton, f.o.b. U.K. ports; 98/100% solid on offer from the continent at about £21 15s. per ton, c.i.f. U.K. ports; powdered, 20s. per ton extra.

ZINC SULPHATE.—Continental material now quoted £11 5s. per ton, ex wharf.

NOTE.—The above prices are for bulk business and are not to be taken as applicable to small parcels.

Sir Ernest Benn's Visit to the Baltic States

IN October Sir Ernest Benn will visit Copenhagen, Stockholm, and Helsingfors, in which places he has been invited to lecture. He will come home via Riga, Reval, and perhaps Warsaw, being away for the best part of a month. The Baltic peoples have shown a good deal of interest in "The Confessions of a Capitalist," and three separate editions have been published in Danish, Swedish, and Finnish Russian, the appearance of these books being followed with invitations to lecture. While in the Baltic Sir Ernest will visit the several Federations and Trade Associations connected with the timber trade, and is already assured, through the intimate associations of *The Timber Trades Journal* in that part of the world, of a hearty welcome. Sweden, Finland, Esthonia, and Latvia in particular are all anxious to develop further their timber business with this country in view of the breaking off of relations with Russia.

Manchester Chemical Market

(FROM OUR OWN CORRESPONDENT.)

Manchester, August 4, 1927.

THE August holiday week-end has naturally had its effect upon the markets here, business being slow to settle down into its stride again after the resumption on Tuesday. As far as chemicals are concerned the demand this week has been quiet on the whole, with a fair amount of buying interest displayed in a number of the leading "heavies." Steady to firm prices characterise the market, signs of weakness being very exceptional.

Heavy Chemicals

A moderate business is still being put through in the case of nitrite of soda, and values seem to be well held at about £19 10s. per ton. For bicarbonate of soda, inquiry this week has been on the slow side but the price position is unchanged, round £10 10s. per ton still being quoted. Alkali keeps firm at £6 15s. per ton and a fair demand for this has been reported. A steady trade is also being put through in caustic soda, values of which are firm at £14 10s. to £16 10s. per ton, according to quality. Prussiate of soda is perhaps a shade steadier, though not actually changed on the week, from 4½d. to 4¼d. per lb. being quoted in connection with the moderate business that is being put through. Both glauber salts and saltcake are rather slow sections, though values are maintained at £3 10s. and £3 12s. 6d. per ton. For bichromate of soda, current offers are at round 3d. per lb., the demand being on a fair scale. Hyposulphite of soda has been in rather limited request during the past few days at £16 5s. to £16 10s. per ton for photographic and £9 15s. for the commercial grade. A further easing off has occurred in the case of sulphide of soda, sales of commercial being made at round £8 7s. 6d., with the 60-65 per cent. concentrated solid on offer at £11 per ton. Chlorate of soda continues to attract relatively little interest from buyers, and at 3¼d. per lb. the tendency is still easy. Phosphate of soda is in moderate request and values are about held at from £12 10s. to £12 15s. per ton.

Lack of strength is still a marked feature of yellow prussiate of potash, quotations for which are now at about 6½d. per lb., with buying interest still slow. Permanganate of potash has sold in small quantities this week, but prices are steady at 6½d. per lb. for the B.P. quality and 5½d. for the commercial. Caustic potash keeps steady and meets with a fair amount of inquiry at about £31 per ton, as does also carbonate of potash, current values of which range from £27 to £27 5s. Bichromate of potash meets with a moderate demand, and offers remain on the basis of round 4¼d. per lb. Chlorate of potash has been slow, but at 3¼d. per lb. values show little change.

Sulphate of copper keeps firm at about £25 10s. per ton, f.o.b., and buying interest in this material is still fairly satisfactory. Arsenic also is well maintained, and offers this week have been on a slightly higher level, white powdered, Cornish makes, being quoted at £16 10s. per ton, at the mines. There is only a quiet trade passing in the acetates of lead, but the tone is perhaps steadier in sympathy with the metals, brown being offered at £40 10s. and white at £43 per ton. Nitrate of lead is in quiet demand at £38 5s. per ton. Acetate of lime is still on offer at £15 5s. to £15 10s. per ton for grey and £8 10s. for brown.

Acids and Tar Products

Values in the acid section are steady all round, though in the case of tartaric and citric acids only a limited business is stirring, with tartaric at 1s. 3¼d. and citric at 1s. 7d. per lb. Oxalic acid continues to display firmness, current offers of this material varying between 3½d. and 3¼d. per lb. The demand for acetic acid has been moderate this week, but values are well held at £66 to £67 for glacial and £37 10s. for 80 per cent. commercial.

Among the by-products there is a fair inquiry both for creosote oil and pitch, and, with supplies limited, quotations are firm at about 7¼d. per gallon for creosote and from £4 5s. to £4 7s. 6d. per ton for pitch. Solvent naphtha remains slow and easy at 1s. 1d. to 1s. 1½d. per gallon, delivered. There is little buying interest in carbolic acid just now, but the basis is much the same as a week ago, crude being quoted at 2s. 4d. per gallon, and crystal at about 8d. per lb.

London Chemical Market

London, August 4, 1927.

MESSRS. CHARLES PAGE AND CO. state that since the commencement of business this week, prices have remained unchanged. A detailed report is, therefore, not presented.

Latest Oil Prices

LONDON.—August 3.—LINSEED OIL closed steady at 2s. 6d. to 5s. per ton under previous day. Spot, ex mill, £32; August, £31; September-December, £31 10s.; January-April, £31 17s. 6d. RAPE OIL inactive. Crude, extracted, £42 10s.; technical, refined, £44 10s.; naked, ex wharf. COTTON OIL quiet. Refined, common edible, £40; Egyptian, crude, £34; deodorised, £42. TURPENTINE steady, but slow, at 6d. per cwt. advance. American, spot, 43s.; September-December, 44s. 6d. per cwt.

HULL.—August 3.—LINSEED OIL.—Naked, spot, £31 17s. 6d.; August and September-December, £31 15s.; and January-April, £32 5s. COTTON OIL.—Naked Egyptian crude, £34 5s.; edible refined, £38 10s.; technical, £37; and deodorised, £40 10s. PALM KERNEL OIL.—Crushed, naked, 5½%, £37.

Nitrogen Products: Huge Cut in Sulphate Prices

Home.—Nitram, Ltd., have now announced the following prices:—

	1927.	£ s. d.		1928.	£ s. d.
August	9 18 0	January .. ..	..	10 11 0
September	10 0 0	February .. ..	..	10 13 0
October	10 2 0	March .. ..	..	10 13 0
November	10 5 0	April .. ..	..	10 13 0
December	10 8 0	May .. ..	..	10 13 0

for neutral quality, basis 20-60 per cent. nitrogen, delivered in bags in 6-ton lots to farmer's nearest station. The only change in the selling terms is that the minimum price applies now to 6-ton instead of 4-ton lots. The price for August shows a drop of £2 8s. per ton, or nearly 20 per cent. on last season's price. The new scale is a direct consequence of the increased production from synthetic plants. The reduction of price in the home market, it is understood, will be accompanied by intensification of propaganda and initiation of research on various crops. Apparently British producers are of opinion that there is scope for a vastly increased consumption in the home market.

Export.—The market remains unchanged and prices continue at £9 3s. 6d. per ton f.o.b. U.K. port in single bags.

Nitrate of Soda.—The lower prices at which sulphate has been offered have checked off to some extent the demand for nitrate of soda and the price has receded to 16s. 3d. per metric quintal f.a.s. Chile, for prompt shipment, with slightly higher prices for later shipment.

Calcium Cyanamide

THE new season's prices for calcium cyanamide have now been announced. For August delivery, the farmers' price for 4-ton lots is £8 6s. per ton carriage paid to any railway station in Great Britain. At this price calcium cyanamide is 10s. cheaper than at this time last year.

Reduced Prices for Refined Camphor

MAY AND BAKER, LTD., announce a reduction of fourpence per lb. in the price of English refined camphor.—Flowers, 3s. 1d. per lb.; flowers, 28 lb., 3s. per lb.; flowers, 1 cwt., 2s. 11d. per lb.; transparent tablets, ¼ oz. to 8 oz., at usual differences.

Prospects of Chile Nitrate

At the annual general meeting of the New Paccha and Jazpampa Nitrate Co., Ltd., held on Friday, July 29, in London, the chairman, Mr. C. W. Evans, stated that the resumption of free selling brought about a heavy fall in the price of Chilean nitrate. It appeared that prices would have to be a good deal lower yet to enable the Chilean nitrate industry to obtain a larger share of the world's nitrogen consumption, but at such prices few producers could work at a profit, and, as far as they were concerned, there was no prospect of resuming production for the present.

Company News

BRITISH SULPHIDES SMELTING CO.—An interim dividend of 5 per cent. for the half-year ended June 30 last has been declared on the 10 per cent. cumulative preference shares, payable on August 16.

JURGENS, LTD.—For the half-year ended June 30 last a dividend at the rate of 7 per cent. per annum is announced on the (guaranteed) 7 per cent. cumulative participating preference shares, payable on July 30.

MANGANESE BRONZE AND BRASS.—After meeting all expenses, including payment of debenture interest, and taking into account the loss brought forward from 1925 of £9,884, the profit and loss account for 1926 shows an adverse balance of £13,497.

ENGLISH VELVET AND CORD DYERS.—The directors have declared interim dividends for the half-year ending June 30, 1927, at the rate of 5 per cent. per annum on the cumulative preference shares, and at the rate of 4 per cent. per annum on the ordinary shares, both less tax.

ANTON JURGENS' UNITED (MARGARINE) WORKS.—The following interim dividends are announced in respect of the half-year ended June 30 last, payable on and after August 2, 1927: A 3 per cent. on the 6 per cent. cumulative (A) preference shares; 6 per cent. on the cumulative participating "B" preference shares Nos. 1-7,000; and 6 per cent. on the cumulative participating "B" preference shares Nos. 7,001-31,029 and on the 6 per cent. cumulative participating "C" preference shares.

FORSTER'S GLASS CO.—The report states that the gross trading profit for the year ended March 31, 1927, is £16,459, which, after providing for debenture, bank interest, and directors' fees, leaves a net credit of £3,125, to which is added the balance from the last account, after providing for depreciation, of £9,567, making £12,692. There has been written off plant and machinery £5,000, and off loose plant and tools £3,500, leaving a balance to be carried forward of £4,192. The directors report that, owing to increased expenditure incurred as a consequence of the coal strike, they are not in a position to declare a dividend nor to put forward, as yet, proposals for dealing with overdue preference dividends.

W. AND H. M. GOULDING.—For the year to June 30 last the net profit, including dividends from investments and subsidiary companies, and after making provision for discounts on outstanding accounts, was £32,586. This, with £3,237 from last account, leaves £35,823 available. After providing for the debenture interest and the fixed dividend on the preference shares, the directors recommend a dividend of 5 per cent. on the ordinary shares for the year, of which 2s. 6d. per share was payable on July 31, and the second 2s. 6d. per share on December 31 next, less tax. A sum of £5,000 is placed to depreciation, and there remains to be carried forward £3,698. The annual meeting will be held at Dublin on August 8 at 11.30 a.m.

X-Rays and Synthetic Rubber

DURING the conference of the Institute of Chemistry of the American Chemical Society at Philadelphia, the opinion was expressed that X-rays might disclose the secret of synthetic rubber, and that experiments now in progress were revealing new knowledge of the fundamental properties of rubber, which eventually might enable the chemist to duplicate nature.

"X-ray photographs," Professor G. L. Clark stated, "show the amorphous pattern for unstretched rubber, and the fibre-crystal structure of stretched rubber. That this is due to the rubber hydrocarbon is demonstrated in new work on very pure soluble rubber. The most interesting feature at present is that no sample of synthetic rubber has been found to produce this sharply defined fibre diagram. It is possible that this is the criterion of the successful artificial reproduction of rubber. Another recent development is the X-ray study of 'racked' rubber, stretched 10,000 per cent. Whereas rubber stretched once begins to show a fibre pattern at 75 per cent. elongation, 'racked' rubber when released with a permanent set of 1,000 per cent. produces only the amorphous pattern. Tests show that balata and gutta percha both contain crystalline matter when unstretched.

New Chemical Trade Marks

Applications for Registration

This list has been specially compiled for us from official sources by Gee and Co., Patent and Trade Mark Agents, Staple House, 51 and 52, Chancery Lane, London, W.C.2, from whom further information may be obtained, and to whom we have arranged to refer any inquiries relating to Patents, Trade Marks and Designs.

Opposition to the Registration of the following Trade Marks can be lodged up to August 27, 1927.

"ALBALITH."

475,298. Class 1. Dry lithopone pigment. The New Jersey Zinc Company (a Corporation organised and existing under the laws of the State of New Jersey, United States of America), 160, Front Street, Borough of Manhattan, City, County and State of New York, United States of America; manufacturers. November 26, 1926. (By consent.)

"PERMANEUT."

480,539. Class 1. Paints, varnishes, enamels, dry colours, distempers, japans, lacquers, anti-corrosive and anti-fouling compositions and anti-corrosive oils. Hadfields (Merton), Ltd., Western Road, Mitcham, Surrey; enamel manufacturers. May 11, 1927. (To be Associated, Sect. 24.)

"DODOLOID."

481,408. Class 1. Paints, varnishes, lacquers and enamels. Burrell and Co., Ltd., Burrell's Wharf, Millwall, London, E.14, and 40, Trinity Square, London, E.C.3; colour and varnish makers, oil boilers and refiners. June 9, 1927. (To be Associated, Sect. 24.)

"MYCETOL."

473,063. Class 2. Disinfectants. Allen and Hanburys, Ltd., Plough Court, 37, Lombard Street, London, E.C.3; wholesale chemists and druggists. September 16, 1926.

"FERTISOIL."

480,678. Class 2. Fertilisers. Charles Norrington and Co., Ltd., Chemical Works, Cattedown, Plymouth; chemical manufacturers. May 14, 1927.

Chemical Trade Inquiries

The following inquiries, abstracted from the "Board of Trade Journal," have been received at the Department of Overseas Trade (Development and Intelligence), 35, Old Queen Street, London, S.W.1. British firms may obtain the names and addresses of the inquirers by applying to the Department (quoting the reference number and country), except where otherwise stated.

CREOSOTE SHEEP DIP.—An importer and agent in Winnipeg, handling chemicals, etc., desires to obtain the representation of British manufacturers of creosote dip throughout Western Canada. (Reference No. 89.)

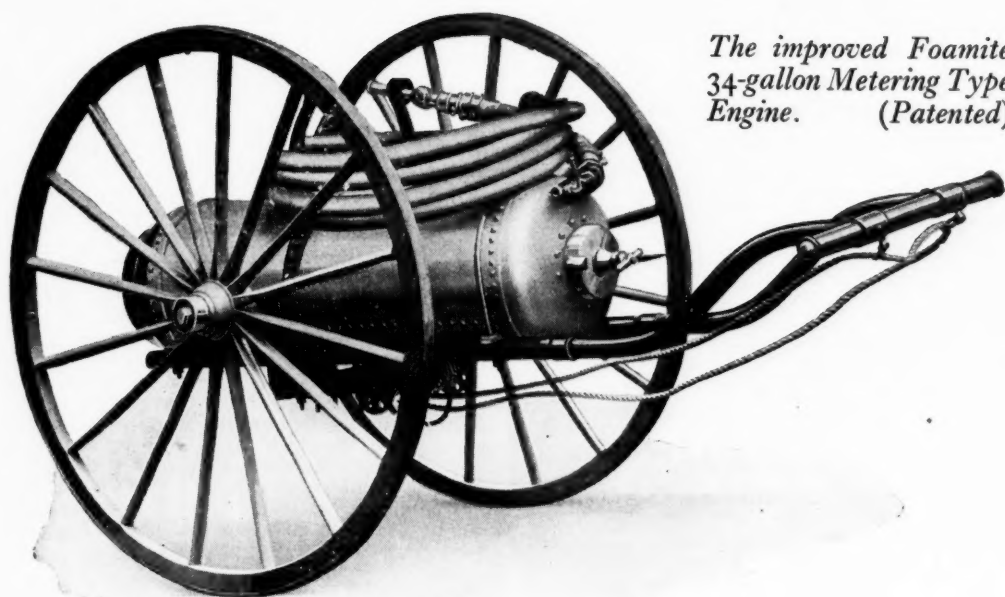
DISINFECTANT FLUID.—The South African Railways and Harbours are calling for tenders, to be presented by September 22, 1927, for the supply of disinfectant fluid, as required, during the period January 1, 1928, to December 31, 1928. (Reference No. B.X. 3678.)

CREOSOTE.—The South African Railways and Harbours Administration is calling for tenders, to be presented by September 15, 1927, for the supply of 45,000 gallons of creosote. (Reference No. B.X. 3677.)

PHARMACEUTICAL PRODUCTS (SPECIALITIES).—An agent, in Brussels, buying for own account, is desirous of obtaining the representation, on a commission basis, of British manufacturers. Correspondence may be in English, but French is preferred. (Reference No. 91.)

CARBIDE.—A firm of importers and agents, established in Constantinople, desire to obtain the representation of British manufacturers or exporters. (Reference No. 103.)

AGENTS SERVICES OFFERED FOR TAR OIL, PALM OIL, AND SILICATE OF SODA 140°.—A firm of commission agents in Buenos Aires are interested in securing the agencies of British firms for the above. (Reference No. 107.)



*The improved Foamite
34-gallon Metering Type
Engine. (Patented)*

A halt to Fire's Destruction

Already enjoying an unrivalled record for efficiency, the value of the Foamite 34-gallon Engine as a unit for fighting either fires involving inflammable liquids or ordinary outbreaks has now been *greatly enhanced*.

The special internal construction of the new metering type engine ensures that the two solutions are automatically measured out in correctly proportioned quantities, and the great advantages obtained will be readily appreciated for the following reasons:—

- (a) Although the same quantity of each solution is used in the new type of engine as was used in the old, the *Firefoam output* is approximately 50% *greater*.
- (b) The *discharge period* is lengthened to approximately *four minutes*, so that greater time for manœuvring at a fire is given.
- (c) *The jet remains steady* during operation—there is no “tailing off” as in the case of the old type.
- (d) The Firefoam produced by the metering type engine is of excellent quality and *consistent throughout the discharge*.

N.B.—There is no advance in the price of the Foamite 34-gallon Engine.

Submit your fire problems to

Foamite Firefoam Ltd.

**55-57 Gt. Marlborough Street,
LONDON, W.1**

Foamite Fire Protection

A Complete Engineering Service

Against Fire

Commercial Intelligence

The following are taken from printed reports, but we cannot be responsible for any errors that may occur.

County Court Judgments

[NOTE.—The publication of extracts from the "Registry of County Court Judgments" does not imply inability to pay on the part of the persons named. Many of the judgments may have been settled between the parties or paid. Registered judgments are not necessarily for debts. They may be for damages or otherwise, and the result of bona-fide contested actions. But the Registry makes no distinction of the cases. Judgments are not returned to the Registry if satisfied in the Court books within twenty-one days. When a debtor has made arrangements with his creditors we do not report subsequent County Court judgments against him.]

PREMIER DRUG CO., LTD. (Proprietors of GOLD-VIN WINE CO.), Fairy Hill Works, Marwood Street, Hightown, Manchester. (C.C., 6/8/27.) £16 17s. 6d. June 28.

STARKEY, Violet Sybil, and SAUNDERS, Charles, trading as CHALON FRÈRES), 130, Maida Vale, W., perfumery manufacturers. (C.C., 6/8/27.) £10 4s. June 28.

London Gazette, &c.

Winding Up Petition

SYMES AND CO., LTD. (W.U.P., 6/8/27.) A creditors' petition for winding-up has been presented by Evans, Sons, Lescher and Webb, Ltd., 56, Hanover Street, Liverpool, and Ayrton Saunders and Co., Ltd., 34, Hanover Street, Liverpool, and is to be heard at the Court House, Government Buildings, Victoria Street, Liverpool, 10 a.m., on August 8.

Companies Winding Up Voluntarily

CARPATHIAN OIL CO., LTD. (C.W.U.V., 6/8/27.) C. Beavis, Brook House, 10-12, Walbrook, London, E.C.4, appointed as liquidator, July 20.

HAROLD PRECIOUS, LTD. (C.W.U.V., 6/8/27.) N. R. Dickinson, Chartered Accountant, 260, Swan Arcade, Bradford, appointed as liquidator, July 21. Meeting of creditors at the Talbot Hotel, Kirkgate, Bradford, Tuesday, August 9, at 12 noon. Creditors' claims by August 23.

HYAMS AND DAW, LTD. (C.W.U.V., 6/8/27.) T. W. Mackness, Accountant, 28, Gerrard Street, London, W.1, appointed as liquidator, July 18.

Receivership

NATIONAL MANUFACTURING AND TRADING CO., LTD. (R., 6/8/27.) W. Thomas, of 23, Bendrick Road, Barry, was appointed receiver and manager on July 16, 1927, under powers contained on debenture dated November 10, 1926.

New Chilean Nitrate Decree

A LAW for development and protection covering all the requirements of the nitrate industry, which has just been made effective in Chile, creates a control service similar to the United States Bureau of Mines and empowers the President of the Republic to exploit the best nitrate reserves in the event of producers refusing to revive the activities of their plants. The President is also empowered to reduce or increase export tariff without the previous authorisation of Parliament, if necessary. Provision is made for the granting of loans to producers desirous of developing and perfecting their plants or establishing stores and stocks abroad for the purpose of selling direct to consumers. The Government is endowed with authority to adopt measures for the reduction of the transportation expenses of nitrate and securing the lowest prices for fuel and other materials for nitrate plants. The benefits of the law are already being felt. Exportation, which dropped below 100,000 tons monthly at the beginning of the year, increased to 200,000 tons during June and July, while production, which dropped to 70,000 tons in February, increased to 120,000 tons in June. Since March, 12 plants have restarted operations and 10 are announced to be restarting soon. The price aboard ship in Chilean ports has dropped 15 cents, although exportation duties have not been decreased. It is believed that the declaration of the Prussian Minister of Agriculture that sulphate of ammonia has soured the soil will convince farmers of the necessity of resorting to Chilean nitrate.

New Company Registered

THE STANDARD AMMONIA CO., LTD. Registered as a "private" company on July 22. Nom. capital, £50,000 in £1 shares. To adopt an agreement with the Standard Ammonia Co., Ltd., and its liquidator, and to carry on the business of wholesale and retail dealers in chemical substances of all kinds; chemical manufacturers and refiners, manufacturing chemists, artificial manure manufacturers and dealers, etc. Directors: F. Lennard (chairman), Braemar, Oathall Road, Haywards Heath; C. Page, F. L. F. Lennard, W. L. A. Lennard and E. S. Lennard.

Some 'Interesting Catalogues

Some Metallurgical Booklets

WE have just received from Johnson, Matthey and Co., Ltd., of Hatton Garden, London, a series of artistically produced booklets, describing various chemicals, metallic salts and compounds and metals refined by them. The needs of various industries have been carefully studied with the result, as these booklets show, that the firm can supply materials specially to suit the requirements of any particular user. As refiners of precious metals they are in a position to supply high grades of silver nitrate and gold chloride for photographic manufacturers. It is claimed that spectroscopic analysis of their silver nitrate fails to reveal the presence of any foreign metallic element.

Potassium chloroplatinite, of a guaranteed quality, and the corresponding palladium salts are also prepared. The booklet on platinum, silver, gold, and enamelling alloys will be of interest to electro-platers and jewellers, and overseas makers should note that special qualities of alloys are made to conform to the varying standards of different foreign countries.

Platinum Utensils and Electrical Accessories

Another branch of industry provided for is the manufacture of electrical and other apparatus in which platinum, iridium, and special alloys are used. Platinum is specially prepared for X-ray apparatus makers and fluorescent screens are supplied, while for acid makers gauze catalysts are made. A somewhat different production is the range of colours for the colouring of glass, and of particular interest is the alkali resisting enamels for milk bottles.

China and Glassmakers' Colours

Apart from colours, materials for polishing, staining, gilding, and silvering glass are also described. Another special line is the range of pottery colours, made at the Sneyd Colour works which Johnson, Matthey took over some time ago. They can supply enamel, underglaze colours, and oxides at the shortest notice. In most cases each booklet is prefaced by a historical commentary, or a *resumé* of the chemical properties of the materials described, while the back pages are devoted to technical data and conversion tables, together with details of the firm's service and trading terms.

Benn Brothers' Other Journals

THE CABINET MAKER.—Transport Problems; Prize Winning Designs in the Industrial Designs Competition; Inside a Modern Factory; Notes from the Home Journals.

THE ELECTRICIAN.—"Design of Electric Battery Vehicles," by L. W. de Grave; Automatic Sub-Stations; Reviews of New Books; 33,000 V Outdoor Switchgear.

THE FRUIT GROWER.—Annual Scottish Supplement; Scottish Society for Plant Breeding; The Motor Industry of Glasgow; Pioneers in Tomato Growing.

THE GAS WORLD.—Monthly Coking Section; "Elementary Thoughts on Gas Distribution," by Walter Hole; A Thermal Study of the Manufacture of Water Gas.

GARDENING ILLUSTRATED.—Exhibiting and Judging at the Flower Show; Garden Planning in a Small Way; Some Attractive Irises; The First Blackpool Annual Flower Show.

THE HARDWARE TRADE JOURNAL.—Census of Production Report; Sanitary Earthenware, Cutlery, Machine Tools; Motor Transport Costs; A Scheme for Pushing Sheffield Goods in Overseas Markets.

THE TIMBER TRADES JOURNAL.—Forestry at the "Royal Welsh"; In Defence of Wood; Royal Scottish Arboricultural Society's Meeting; History of Sweden's Timber Export; When English Buyers had to Fetch the Wood.

